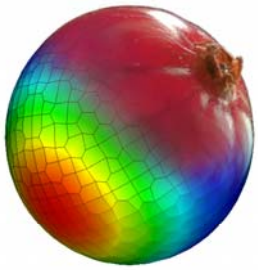

RIBES

Radial basis functions at fluid Interface Boundaries to Envelope flow results for advanced Structural analysis

RIBES experimental test report

January 2017

Project coordinator:

Prof. Marco Evangelos Biancolini
Department of Enterprise Engineering "Mario Lucertini"
University of Rome "Tor Vergata"
Email biancolini@ing.uniroma2.it

Authors:

Prof. F. Nicolosi, Ing. V. Cusati, Ing. D. Ciliberti (*University of Naples "Federico II"*)

Dr. U. Cella (*University of Rome "Tor Vergata"*)

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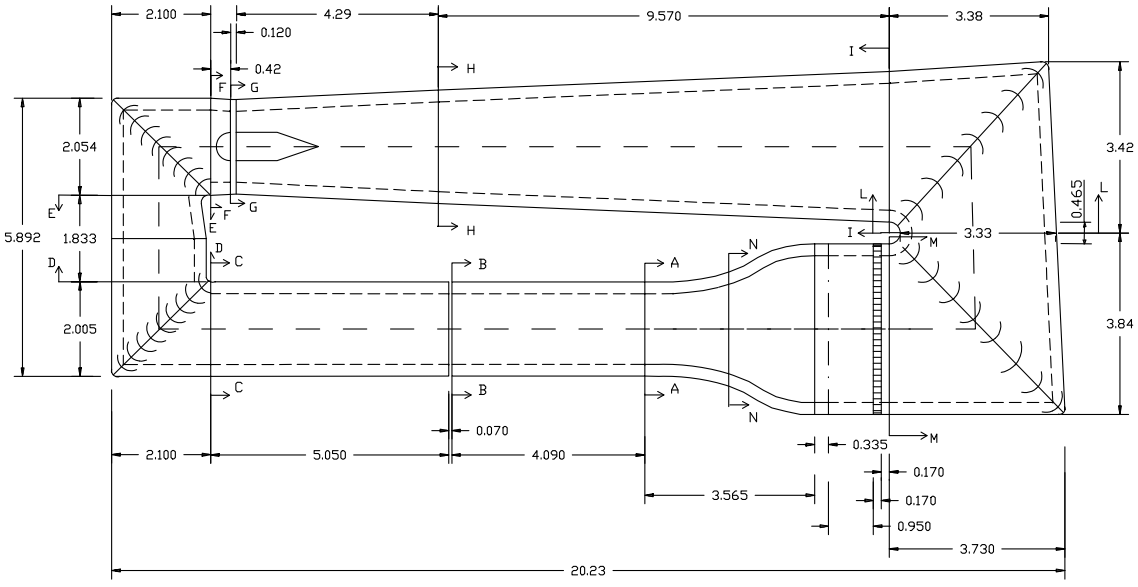
1 Introduction

The present document details the aeroelastic measurements campaign performed on the wind tunnel model developed within the RIBES project. The content was extracted from the final test report provided by the University of Naples "Federico II" who was in charge to perform the experimental campaign. A selection of the most significant tests are reported.

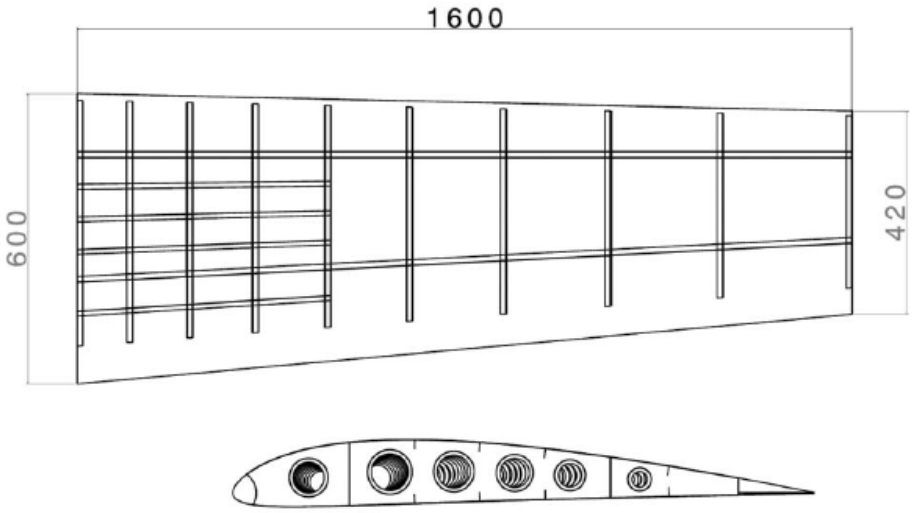
2 Test facility description

The wind-tunnel is a close-circuit type with test-section dimension of 2 x 1.4 m and maximum speed of about 45-50 m/s. The characteristics of the wind-tunnel are reported below:

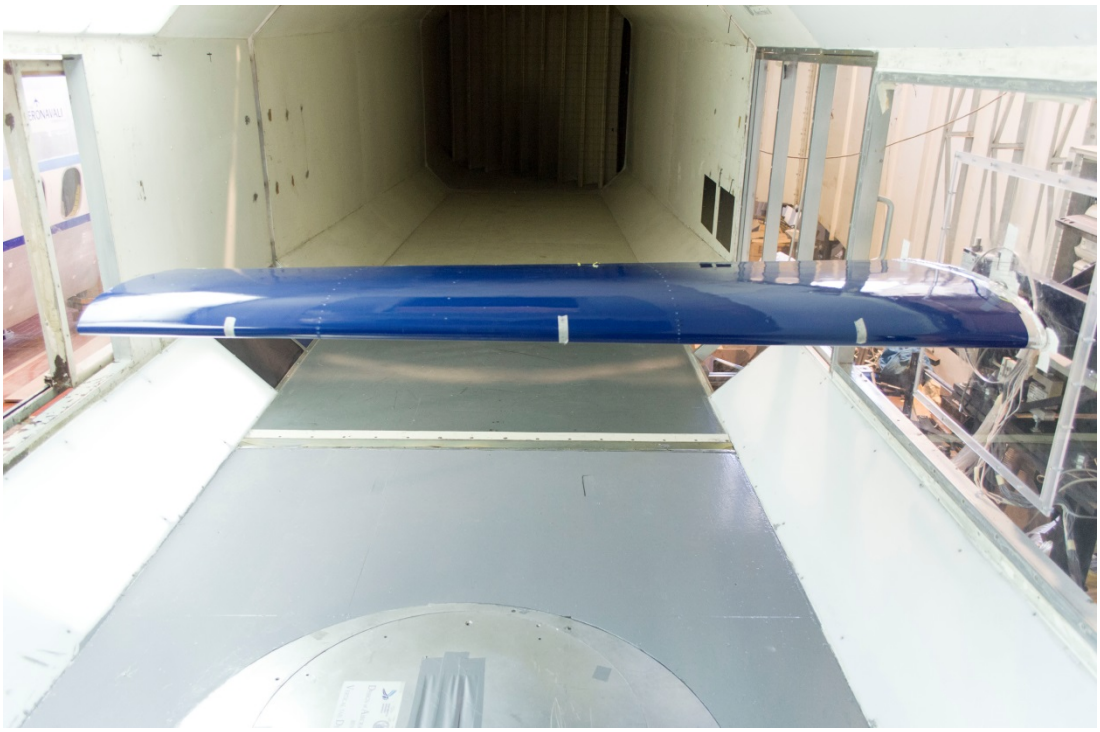
- **Type**: closed circuit-closed test section
- **Test section dimensions**: 2.0 m x 1.4 m
- **Maximum speed**: about 160 Km/h (45 m/s)
- **Turbulence level**: 0.1%
- **Temperature range**: 10-50 °C (during test the air temp increase)
- **Speed range**: 5 - 45 m/s
- **Reynolds numbers**: 1 - 2 mil. for airfoils 2D tests, about 0.9 - 1.0 mil. for 3D models tests (chord of about 0.25 m)
- **Dynamic Pressure**: 15 – 1200 Pa
- **Stagnation pressure**: Dyn press + ambient pressure (about 103500 Pa + q = 104700 Pa)

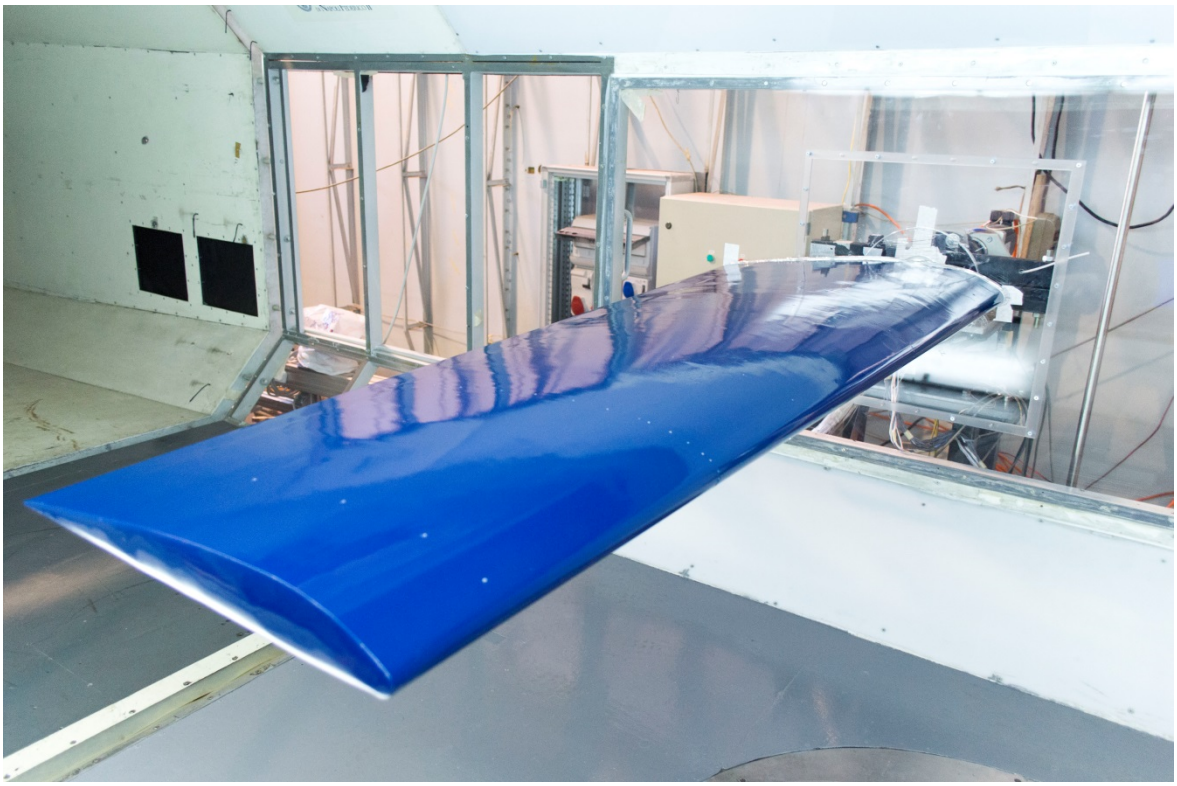


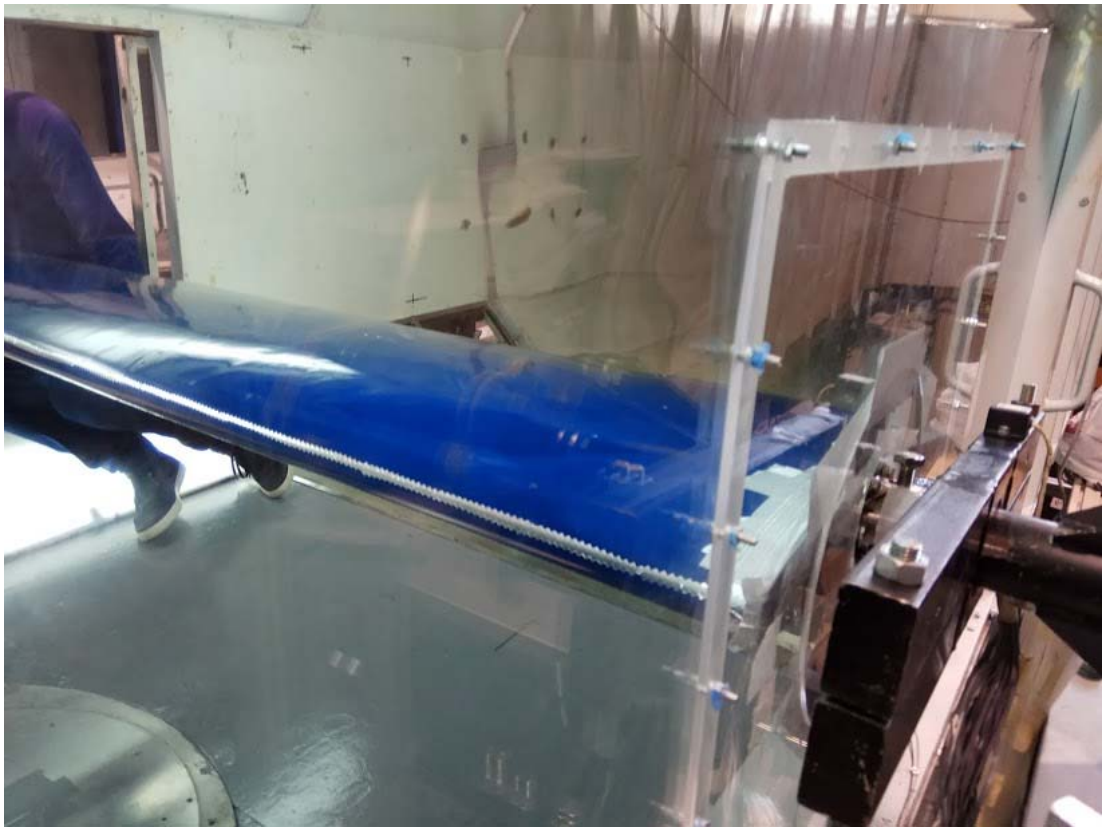
3 The wing model

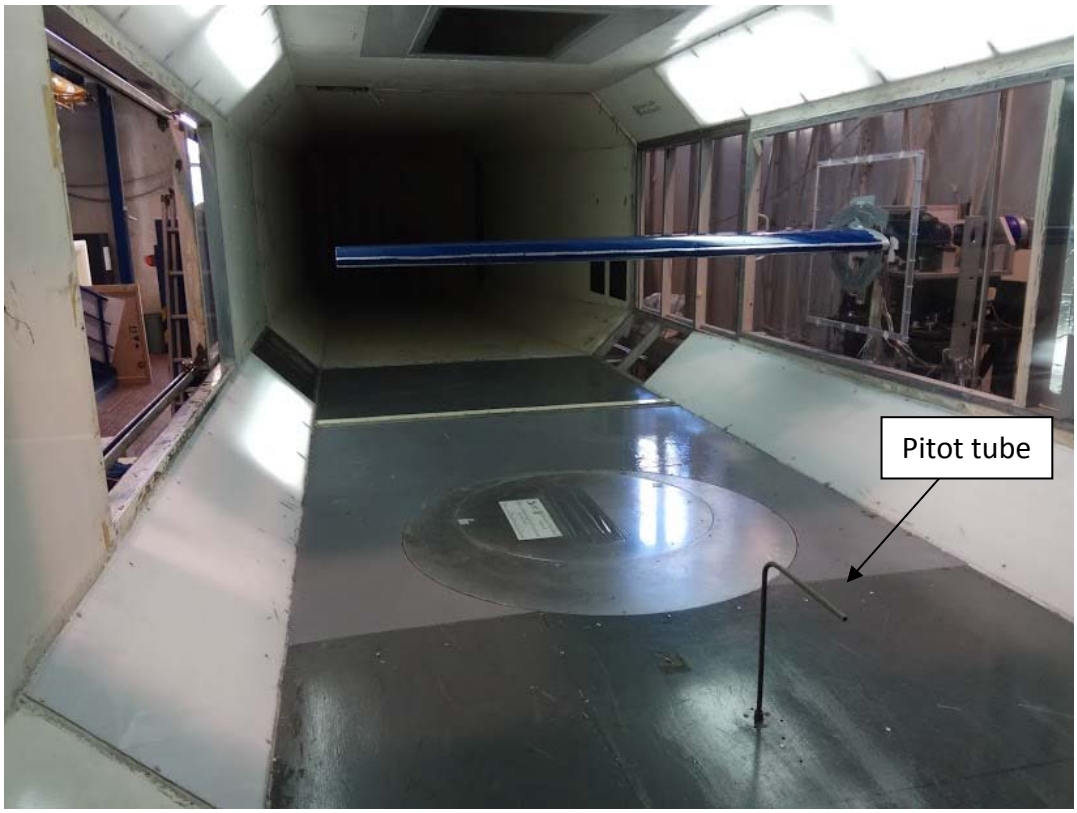


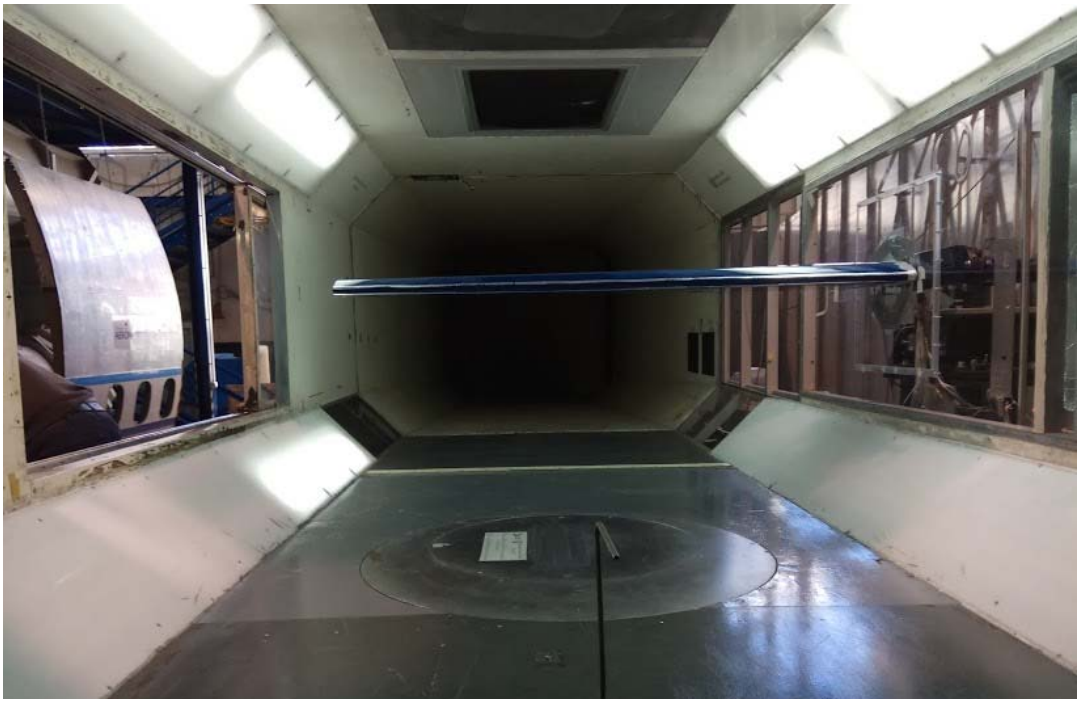
The wing model has been installed in the test section as a cantilever on the side of the wall. The model span is 1600 mm. The root and the tip chord chords are respectively 600 mm and 420 mm.





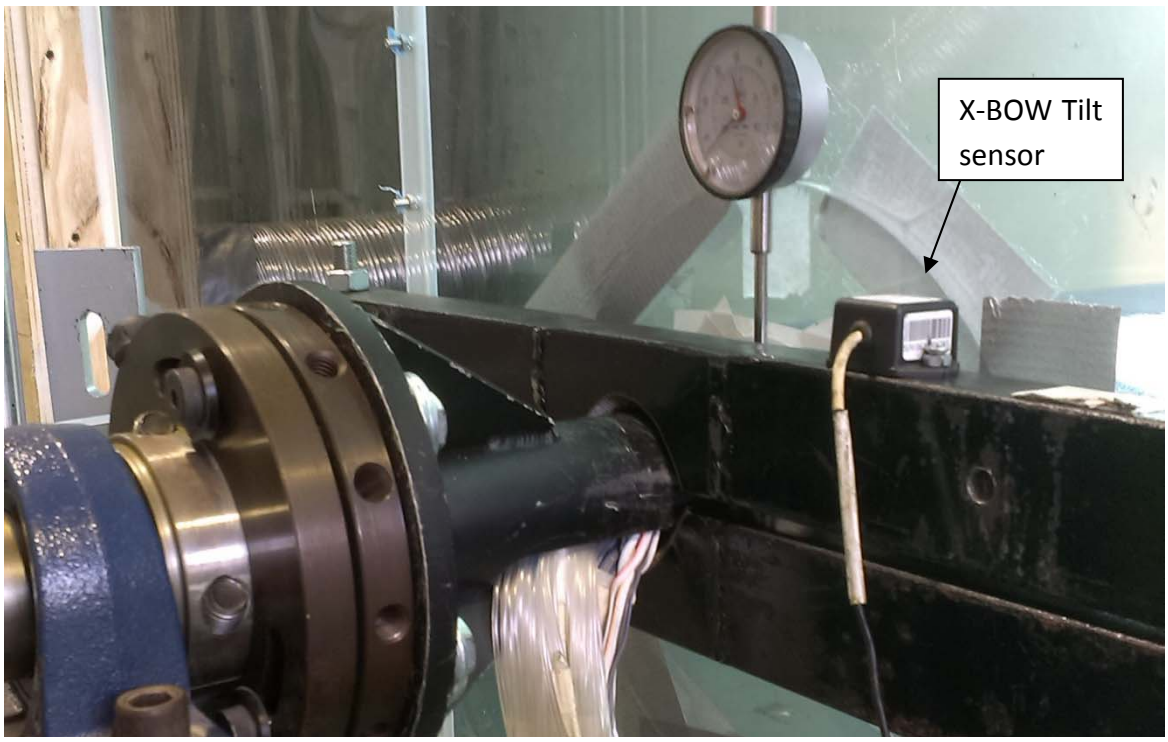



Pitot tube



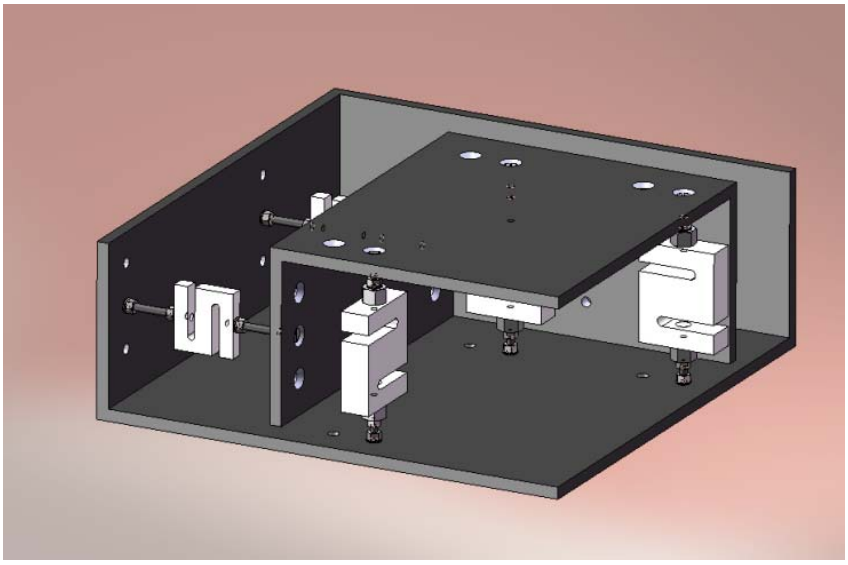
4 Tests and measurements layout

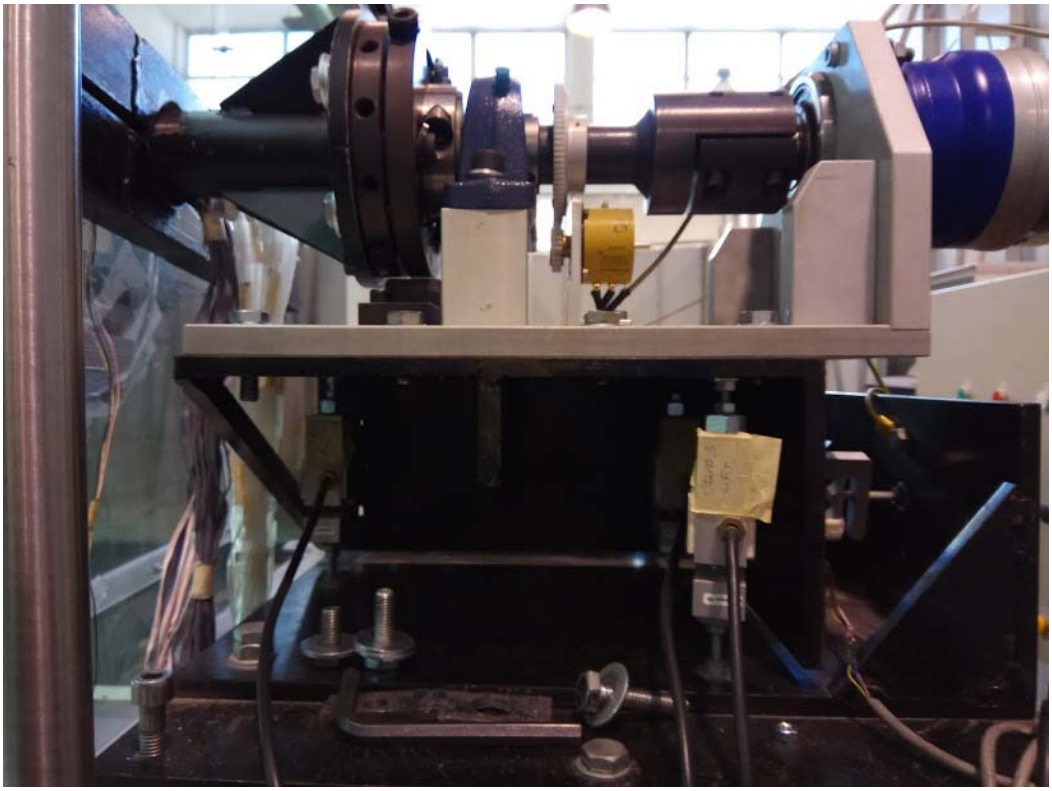
A strain gauge balance with an electric motor to change angle of attack has been used during tests to measure all forces and moments. The angle of attack is measured through a tilt sensor X-BOW with high accuracy (0.01 deg) and a possible range of ± 30 deg. The X-BOW sensor is installed on an iron bar linked to the attachment cylinder, as shown in the picture below.



4.1 Force measurements

The external force balance is made by a combination of 5 load cells as shown in the picture below.





The force-balance, through a calibration matrix 5 x 5 is able to measure :

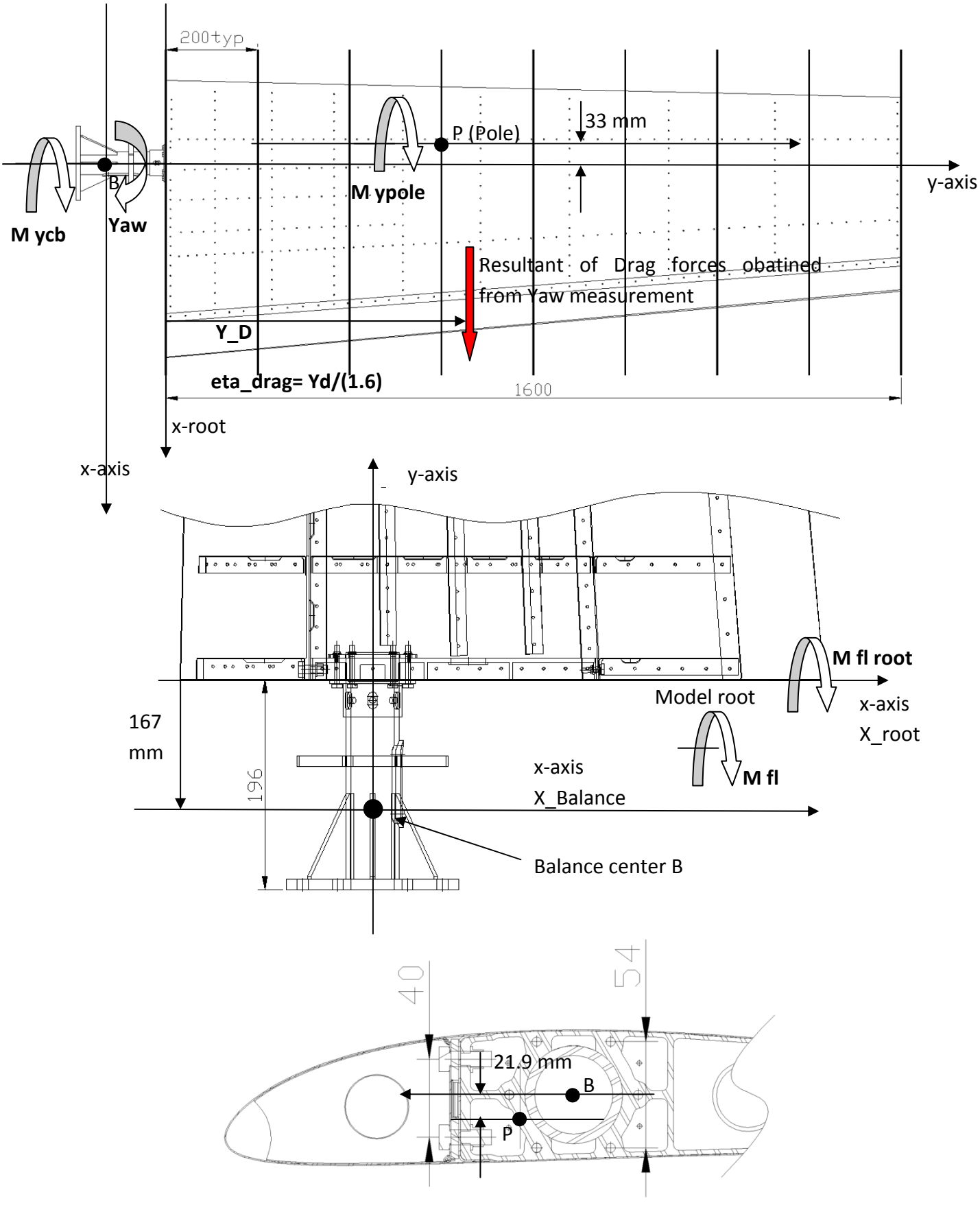
- Normal force (Lift), indicated by **L** or **N**
- Horizontal force (Drag), indicated by **D**
- Pitching moment (Moment respect to the y-axis. Y-axis is defined as the axis positioned in the center of the cylinder which links the model with the 5 component external balance, see figure below), indicated by **My,** also corrected to take into account the model CG shift when changing the angle of attack => **Mycb.**
- The pitching moment **Mycb** is then transferred to the point **P** (moment Pole) obviously taking into account the additional moment due to the normal force and due to the drag force (although this second contribution is very small). The new Moment respect to the point **P** is called **Mypolo**.
- Bending moment (Moment respect to the x-axis) measured respect to the Balance center (axis X_Balance), indicated by **Mfl** and after transferred to the wing root chord (axis X_root), indicated by **Mflroot**). From the bending moment measurement respect to the model root is possible to derive the y-position of resultant of Normal forces, Y-N, (and its non-dimensional value respect to the wing span, 1600 mm), called **η (eta)** (referred to the model root chord as origin).
- Yawing moment respect to the z-axis, perpendicular to x and y axis, indicated by **Yaw** Through the measurement of Yawing moment is possible to derive the y-position of resultant of drag forces Y_D (and also its non-dimensional value respect to the wing span, 1600 mm). The non-dimensional value is called η_{drag} (referred to the model root chord as origin).

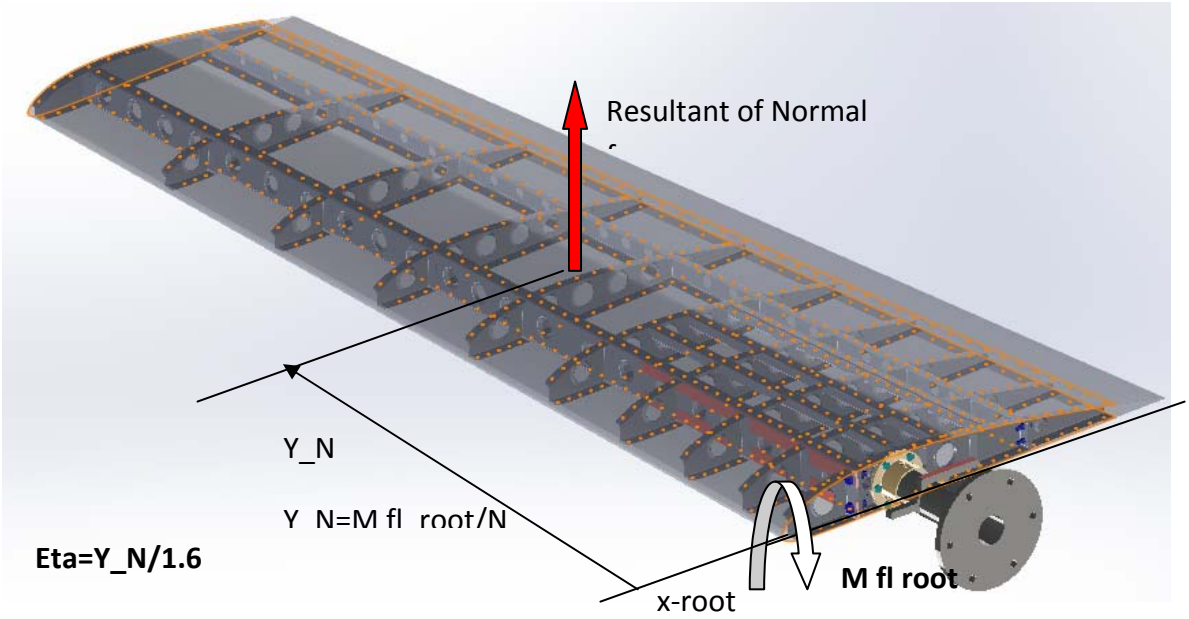
The measurement tolerance ranges and accuracy are reported below:

Component	Range		Accuracy
	Min	Max	
Normal force (Lift) L	-80 Kg	100 Kg	0.030 Kg
Horizontal force (Drag) D	-12 Kg	12 Kg	0.005 Kg
Pitching moment My	-15 Kg*m	15 Kg*m	0.010 Kg*m
Bending moment Mfl	-40 Kg*m	60 Kg*m	0.030 Kg*m
Yawing moment Myaw	-8 Kg*m	8 Kg*m	0.006 Kg*m

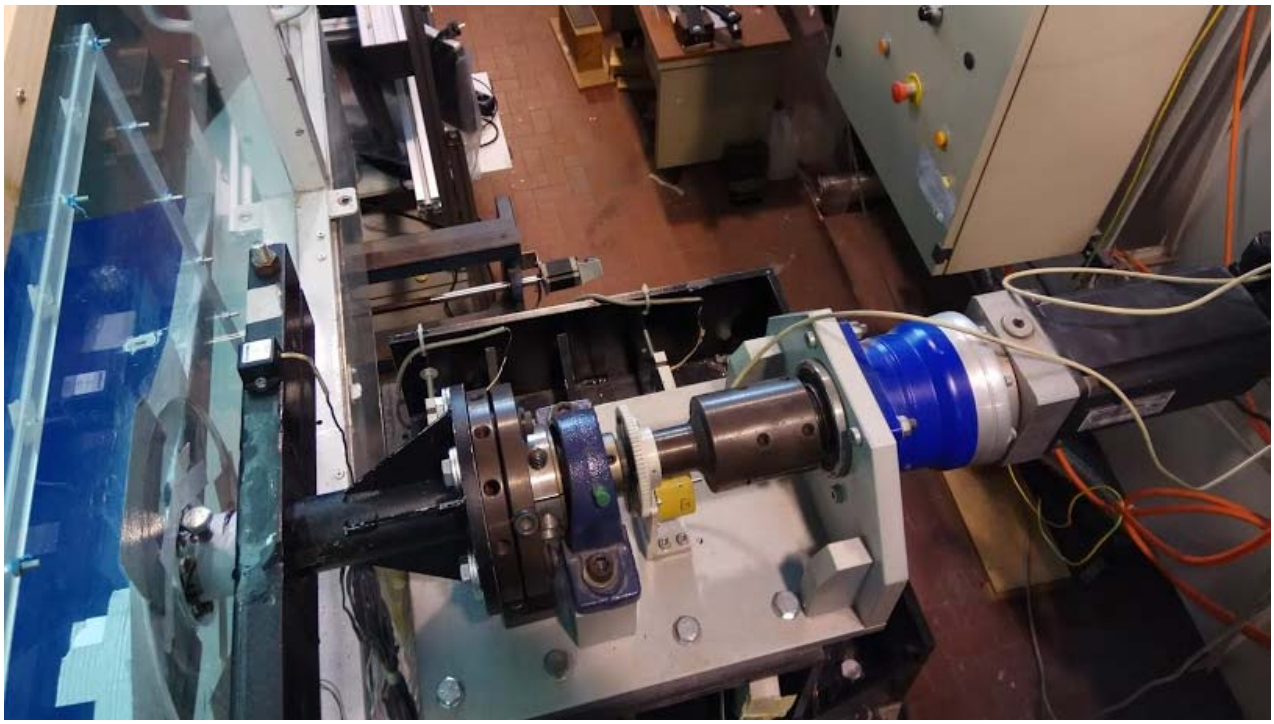
My is measured respect to the point **B** (balance centre) and then transferred respect to the point **P** (Pole) placed at 25% of the mean aerodynamic chord. The POLE coordinates respect to the balance centre are:

- X-distance = 33 mm (0.033 m) in front of the balance measurement point **B**
- Z-distance = 21.9 mm (0.0219 m) below the balance measurement point **B**


200typ
P (Pole)
33 mm
y-axis
M ycb
B
Yaw
M ypole
Resultant of Drag forces obatined from Yaw measurement
Y_D
eta_drag= Yd/(1.6)
1600
x-root
x-axis
y-axis
M fl root
Model root
x-axis
X_root
167 mm
196
x-axis
X_Balance
M fl
Balance center B
40
54
21.9 mm
B
P



The rotation of the model (change of the angle of attack) is operated by an electric motor to which the tubular rod is attached through a flange.



The dynamic pressure is measured by the venture system and a pressure sensor. The measured value is correlated to get the nominal dynamic pressure **q** in the test section.

The aerodynamic coefficients are computed according to:

CL = L/(q S)

CD = D/(q S)

CMy = My/(q S c) Moment coeff measured by the balance respect to the point B

where S = 0.815 m^2 is the model reference surface, c = 0.5153 m is the model mean aerodynamic chord and q is the dynamic pressure.

The moment coefficient is corrected to account to the shift of the centre of gravity when changing the angle of attack and following transferred from the point B (Balance) to the point P (Pole of moments).

CMycb = Mycb/(q S c) Moment coefficient corrected for the model CG shift

CMypolo = Mypole/(q S c) Moment coefficient respect to point P

4.1.1 Coefficients corrections

A set of corrections were applied to the measured aerodynamic coefficients in order to estimate the free flight performance of the wing.

Upwash and streamline curvature

The first and most important correction applied to the measured data is the correction in angle of attack due to the test section walls which cause to measure an higher slope of the lift curve in wind-tunnel conditions respect to the free-air case.

The correction in angle of attack is obtained by the following formula:

$$\Delta\alpha = (1+\tau_{2w})\cdot\delta\cdot\left(\frac{S}{A_{wt}}\right)\cdot CL$$

$$\alpha_{cor} = \alpha_g + \Delta\alpha$$

where S is the model reference surface and A_{wt} is the wind-tunnel test section frontal area, equal to 2.68 m^2.

The coefficients τ_{2w} and δ are tabulated in function of the model and the wind-tunnel test section dimensions. In our case:

$$\tau_{2w} = 0.18 \qquad \delta = 0.61$$

The correction to be applied is positive. At a certain geometrical angle of attack, the effective corrected angle of attack will be slightly higher.

Solid and wake blockage

The dynamic pressure around the model is increased, due to solid and wake blockage, by a factor that in our case is around 1.013:

$$q_{cor}/q=1.013 \quad \text{or} \quad q/q_{cor}=0.987$$

The aerodynamic coefficients are then corrected for blockage effects, with all corrected coefficients lower than the non-corrected ones, accordingly to:

$$CL_{cor}=CL*(q/\ q_{cor})$$

$$CD_{cor}=CD*(q/\ q_{cor})$$

$$CM_{cor}=CM*(q/\ q_{cor})$$

Effect of upwash on measured drag coefficient

A strong additional correction has to be applied to the drag coefficient to account for the upwash correction in angle of attack. The presence of the lateral wall, relatively close to the wing tip, involves an underestimation of the induced drag. Another correction is due to the effect of wake blockage which changes the pressure in the test section in the wind direction, influencing the drag in the opposite way (the measured drag is higher than that the drag in free-air).

These corrections, to be applied to the drag coefficient, are finalized in the formula:

$$\Delta CD = \Delta\alpha \cdot CL - \Delta CD_{wake\_blockage}$$

where the last term is:

$$\Delta CD_{wake\_blockage} = 0.0000655$$

The complete formulation of the drag coefficient correction is:

$$CD_{cor} = CD \cdot \left(\frac{q}{q_{cor}} \right) + \Delta\alpha \cdot CL - \Delta CD_{wake\_blockage}$$

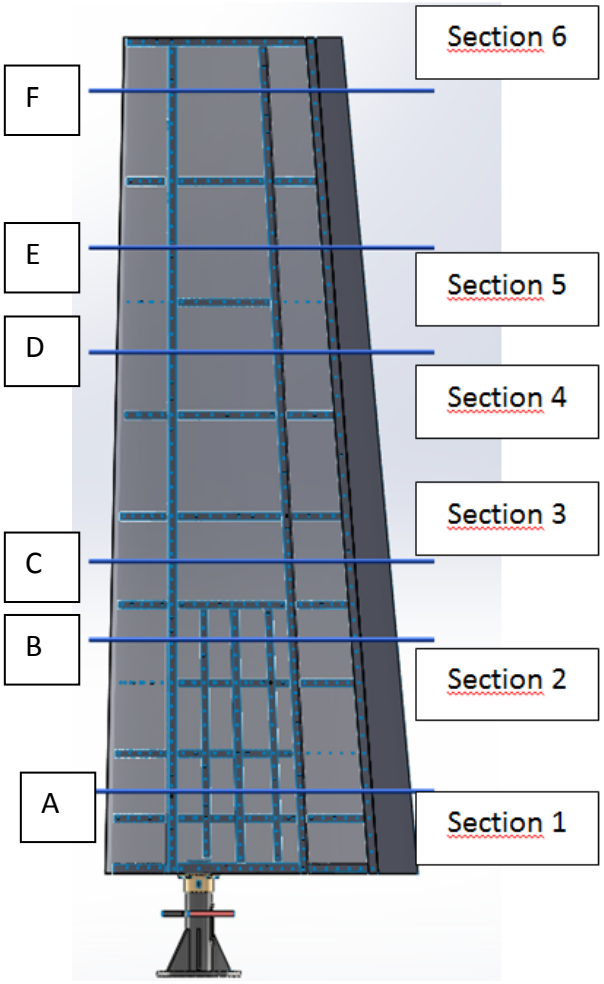
4.2 Pressure measurements

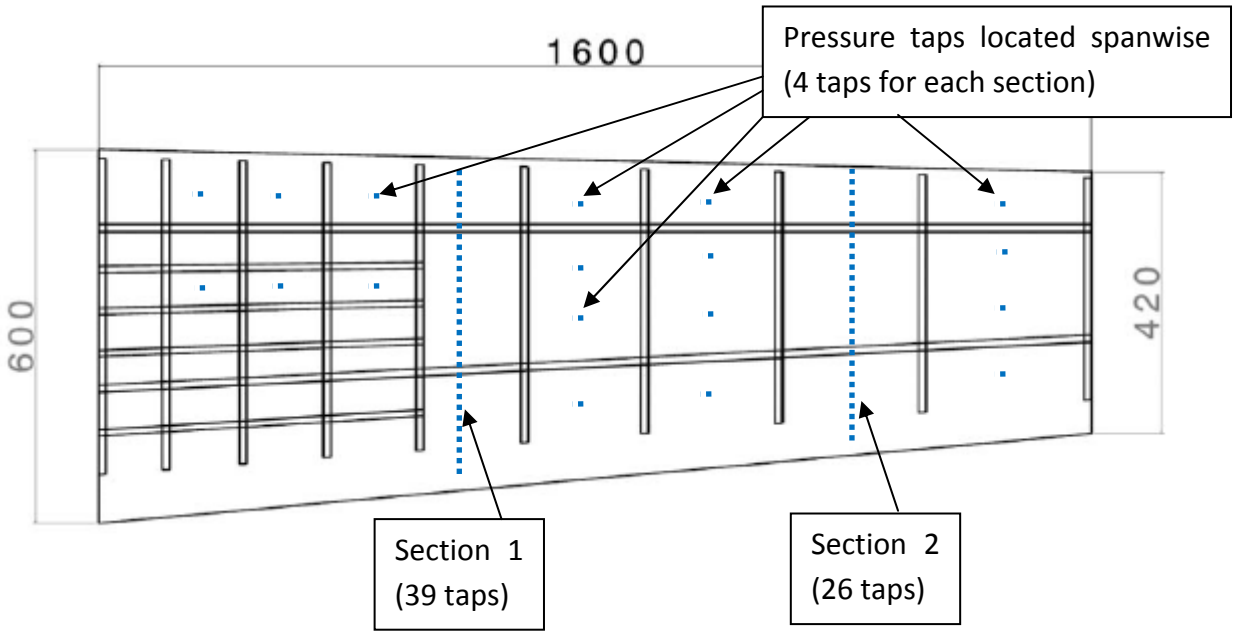
A number of 81 pressure taps have been installed along 6 sections of the wing model. Their location and number are reported in Table 1. Section 1, 2, 4 and 6 are instrumented with 4 pressure taps each on the upper surface in order to provide the spanwise pressure distribution at four stations. Section 3 and Section 5 are instrumented respectively with 39 and 26 pressure taps in order to evaluate the chordwise pressure distribution.

Few pressure taps were accidentally disconnected from the wing model skin, mainly in the leading edge region, during the final assembly of the model. The missing pressure measurements, however, did not significantly affected a uniform reading of the pressures around the model.

Table 1 – Pressure taps locations and number

NAME ID	SECTION	y(mm)	η	Chord(m)	Number and Number of Pressure taps
A	1	160	0.100	0.582	4 (A1 to A4) te->le, lower->upper
B	2	450	0.281	0.549	4 (B1 to B4) te->le, lower->upper
C	3	600	0.375	0.533	39 (C1 to C39) te->le, lower->upper
D	4	990	0.619	0.488	4 (D1 to D4) te->le, lower->upper
E	5	1200	0.750	0.465	26 (E1 to E26) te->le, lower->upper
F	6	1500	0.938	0.431	4 (F1 to F4) te->le, lower->upper
				Total	**81**

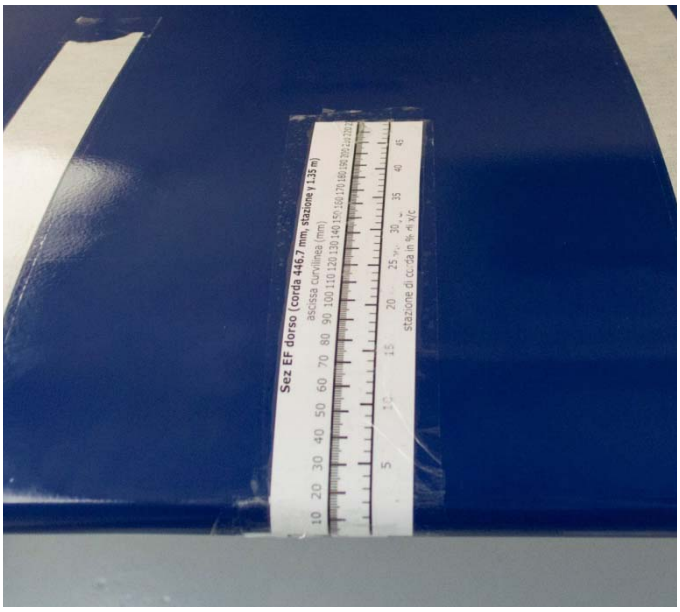




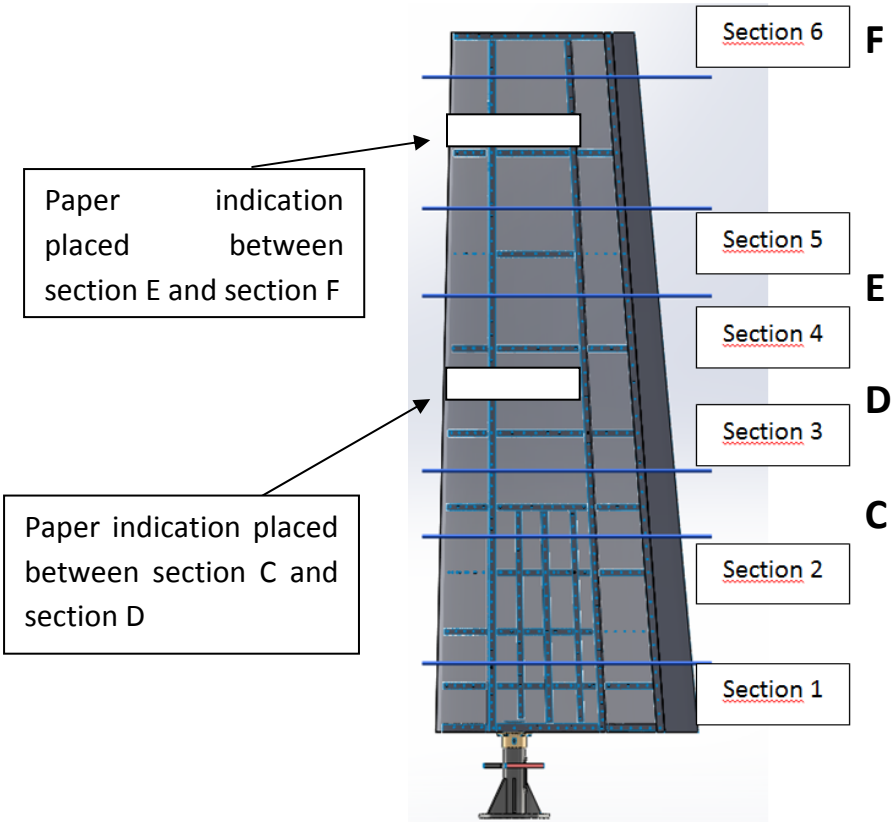
The pressure taps are connected by tubes to a Scanivalve electronic pressure measurement systems together with pressure coming from Venturi system and pitot installed in front of the model.

4.3 Transition trip installation

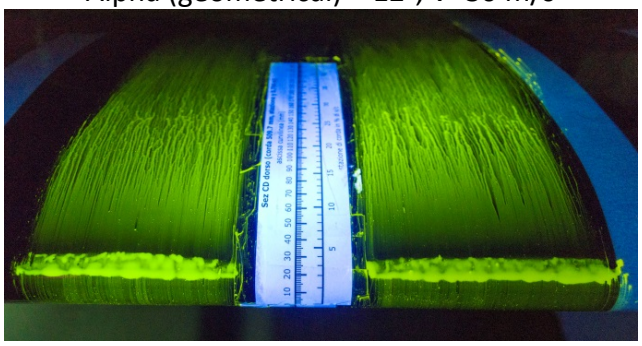
The clean model has been covered with some fluorescent oil at several section along the span. Graduated paper strips have been placed close to station C (y = 600 mm) and station E (y = 1200 mm) to measure the position of the laminar separation bubble.



The tests have been performed at V=30 m/s. Some of them were repeated at V=35 m/s but no significant differences were observed.

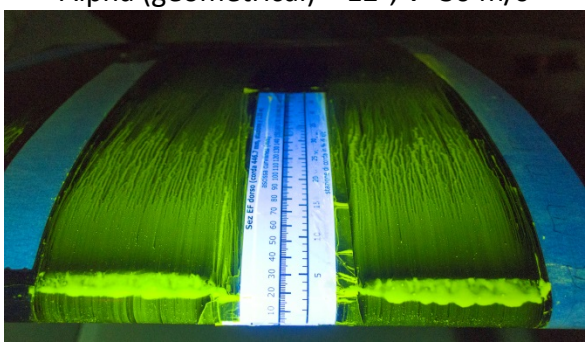


Alpha (geometrical) = 12°, V=30 m/s

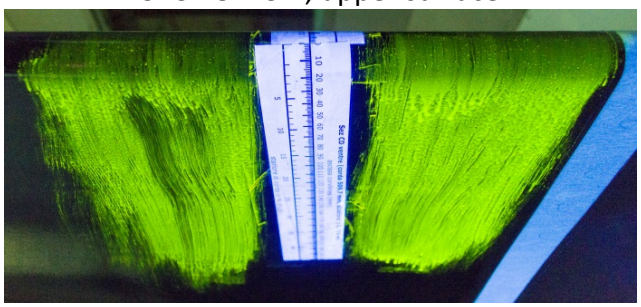


SECTION CD , upper surface

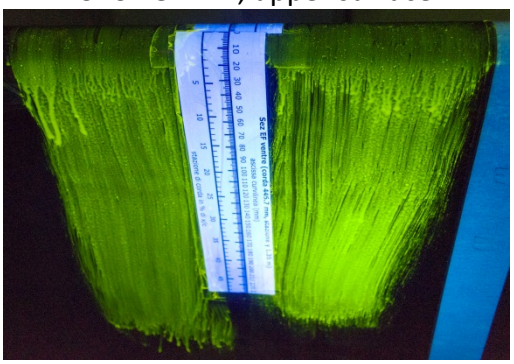
Alpha (geometrical) = 12°, V=30 m/s



SECTION EF , upper surface



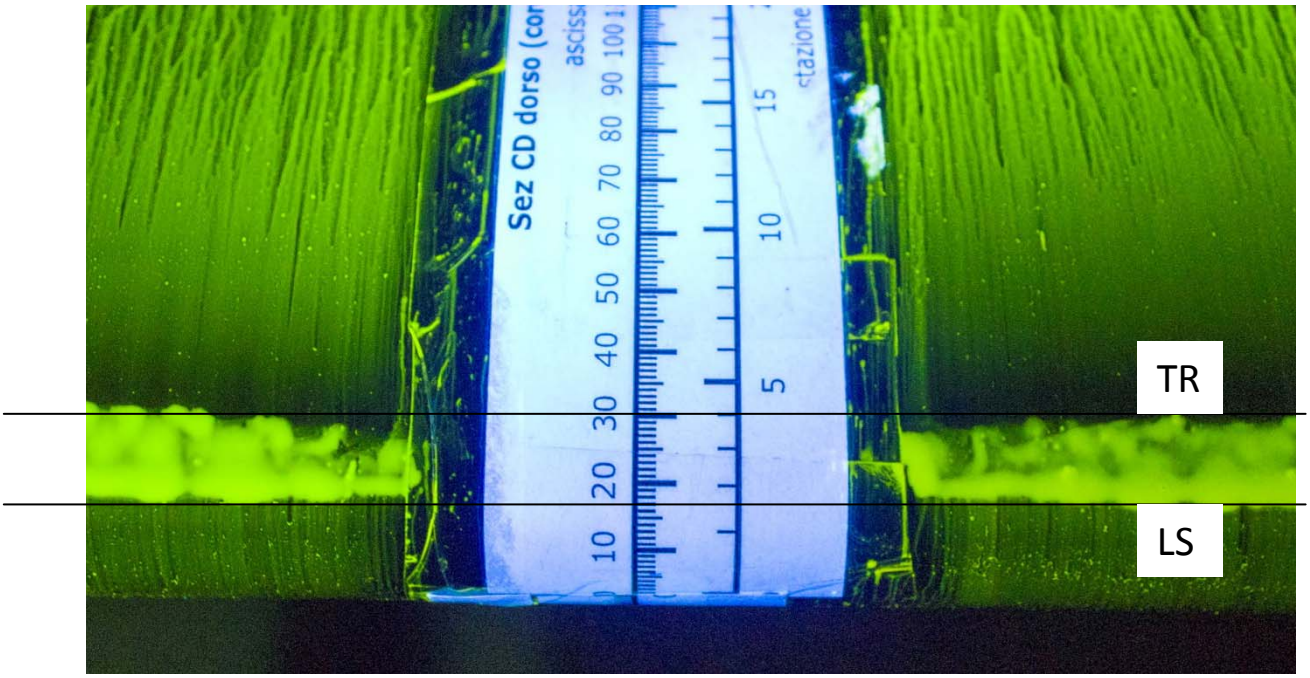
SECTION CD , lower surface



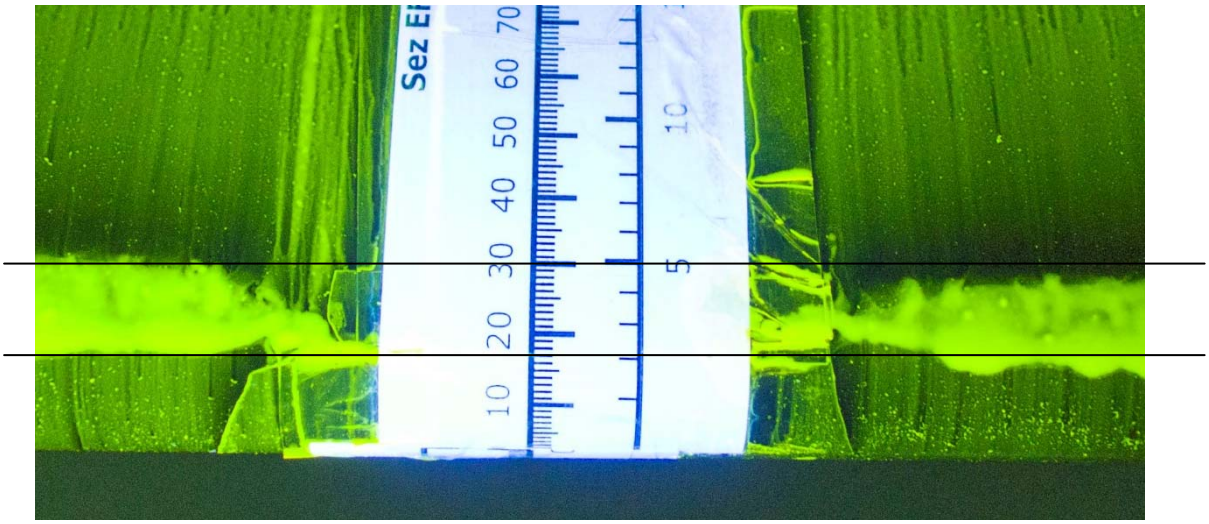
SECTION EF , lower surface

Table 2: location of laminar bubble

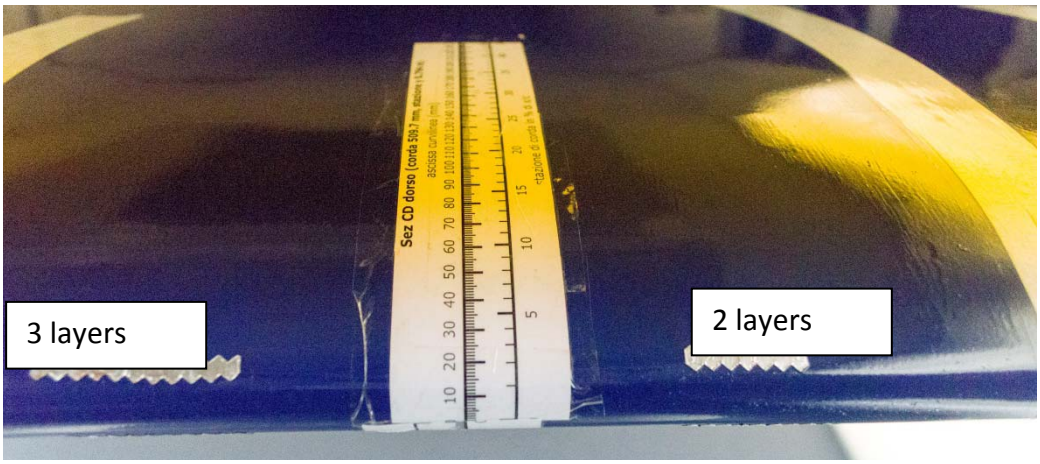
	s [mm]	x/c (local fraction of chord)
LS (Laminar separation)	17 mm	0.016 (1.6%)
TR (Turbulent reattachment)	30 mm	0.040 (4%)



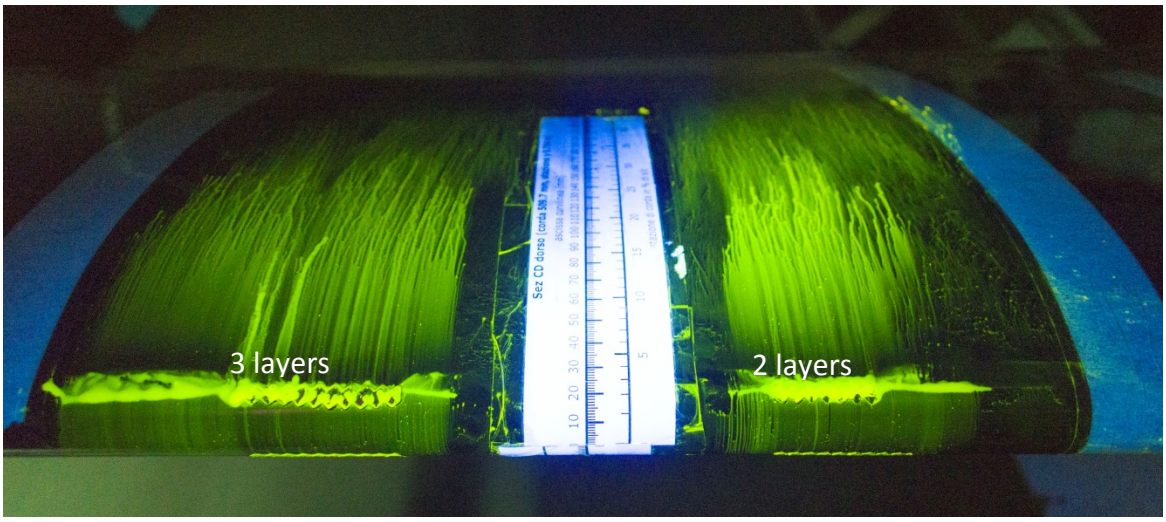
In section E/F, similar results have been observed (see below):



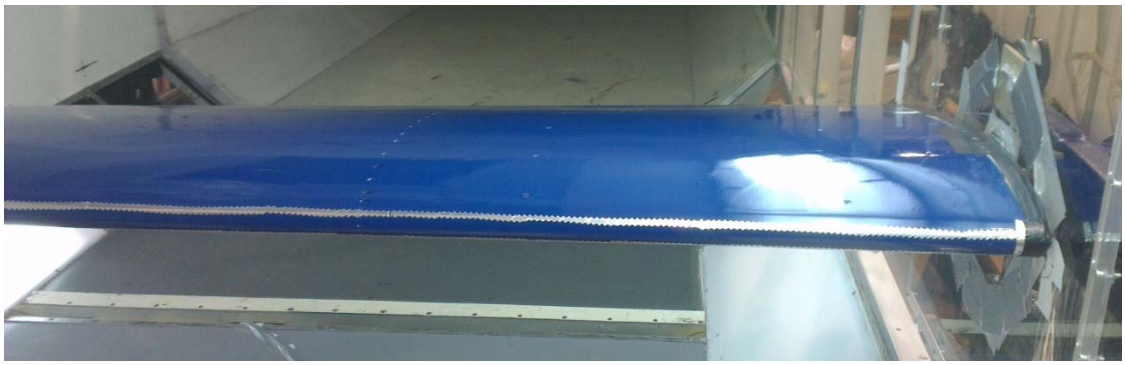
Transition trips have been placed on both upper an lower surface of the wing according to the position of the bubble observed at alpha = 12°. Preliminary tests have been performed placing 2 layers (th = 0.4 mm) of zig-zag aluminium tape on the right side of the white paper at s = 15 mm (x/c = 1.3%) and 3 layers (th = 0.6 mm) on the left side.



The tests with oil have been repeated at alpha = 12° to check the efficiency of the zig-zag aluminium tape.

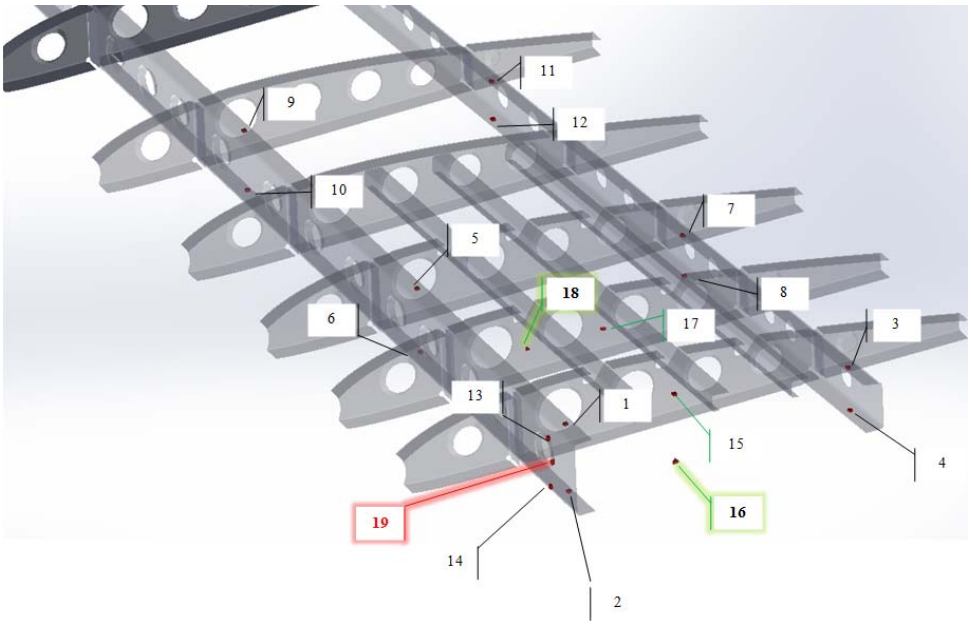


The final transition trips configuration consisted in 3 layers of zig-zag tape on both sides of the wing all along the span at s = 14 mm (about 1.4 % of the chord).



4.4 Stress state measurement

The stress state was measured by a set of strain gauges. The following figure reports the map of the sensors installed.

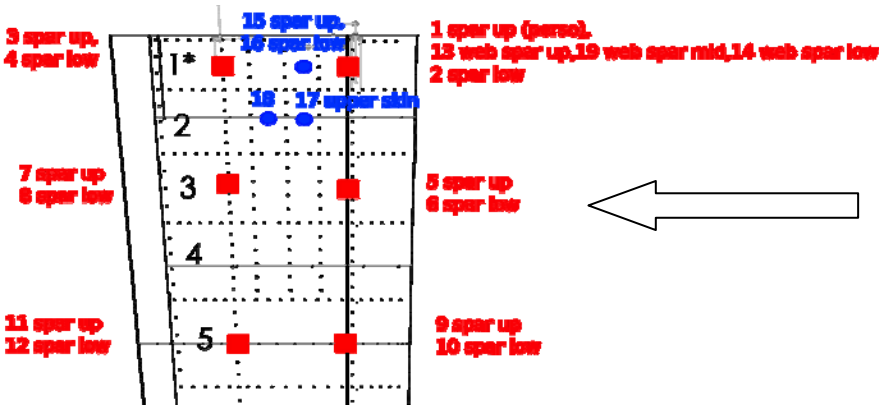


The Table 3 details the position of all strain gauges applied. The strain gauge n. 1, after some checks, have been detected as non-working and not giving any reliable results. All other strain gauges worked properly.

Table 3 – Strain gauges locations number, number and type

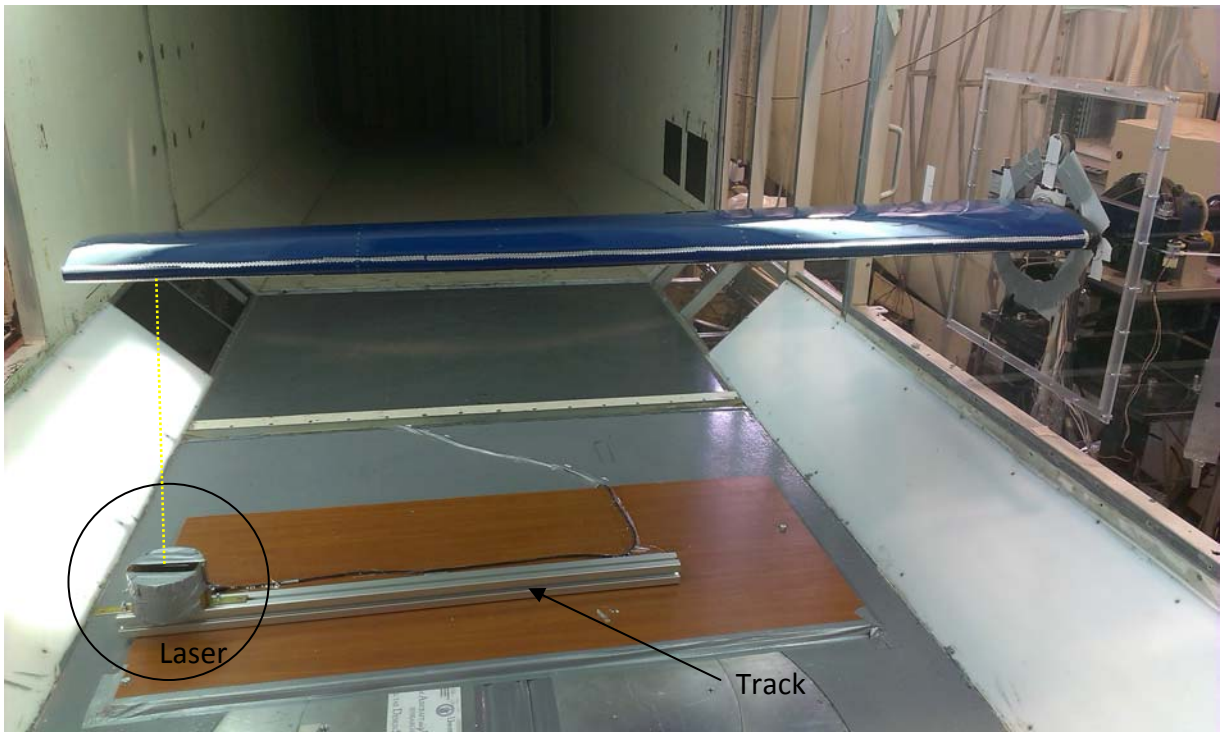
ID	Bay	POSITION	INSTALLATION	TYPE	y (mm)	eta
1	1	between rib1-rib2	front spar	UNIDIRECTIONAL	35.5	0.025
2	1	between rib1-rib2	front spar	UNIDIRECTIONAL	35.5	0.025
3	1	between rib1-rib2	rear spar	UNIDIRECTIONAL	35.5	0.025
4	1	between rib1-rib2	rear spar	UNIDIRECTIONAL	35.5	0.025
5	3	between rib3-rib4	front spar	UNIDIRECTIONAL	310	0.194
6	3	between rib3-rib4	front spar	UNIDIRECTIONAL	310	0.194
7	3	between rib3-rib4	rear spar	UNIDIRECTIONAL	297	0.194
8	3	between rib3-rib4	rear spar	UNIDIRECTIONAL	297	0.194
9	5	between rib5-rib6	front spar	UNIDIRECTIONAL	600	0.391
10	5	between rib5-rib6	front spar	UNIDIRECTIONAL	600	0.391
11	5	between rib5-rib6	rear spar	UNIDIRECTIONAL	598	0.391
12	5	between rib5-rib6	rear spar	UNIDIRECTIONAL	598	0.391
13	1	between rib1-rib2	front spar thickening	UNIDIRECTIONAL	35.5	0.025
14	1	between rib1-rib2	front spar thickening	UNIDIRECTIONAL	35.5	0.025
15	1	1stbay, between 1st and 2nd stringer	Upper Skin	UNIDIRECTIONAL	35.5	0.025
16	1	1stbay, correspondence to UD N.15	Lower Skin	ROSETTE-3SIGNAL	35.5	0.025
17	2	2ndbay, between 1st and 2nd stringer	Upper Skin	UNIDIRECTIONAL	169	0.106
18	2	2ndbay, between 2nd and 3rd stringer	Upper Skin	ROSETTE-3SIGNAL	169	0.106
19	1	between rib1-rib2	front spar	ROSETTE-3SIGNAL	35.5	0.025

Wing model, upper view

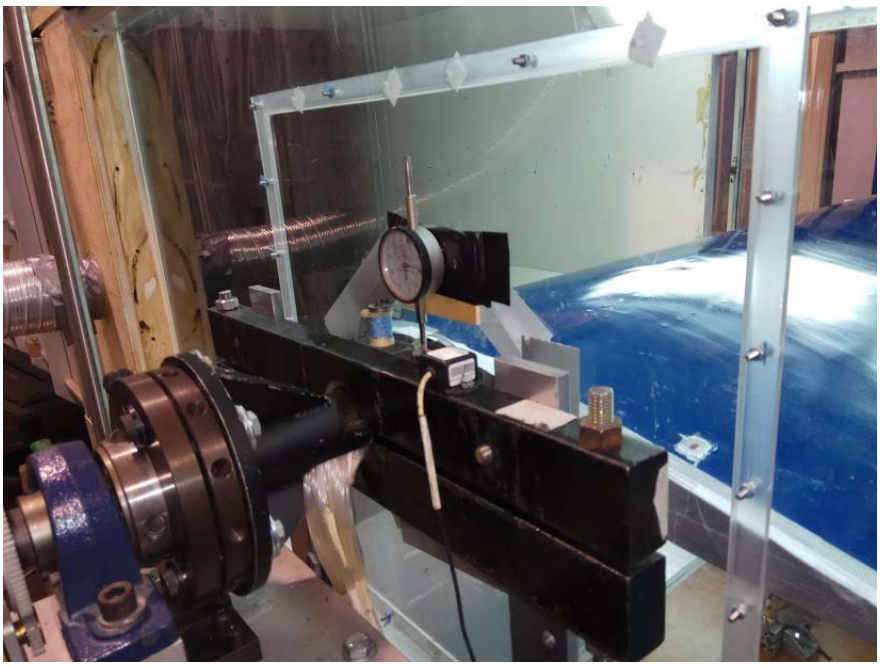


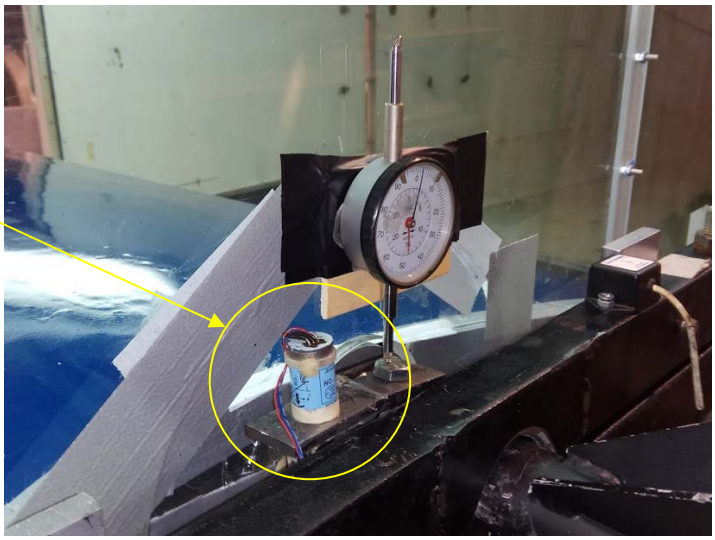
4.5 Measurement of model deformation

The model deformation was measured by laser scan detecting the displacement of a set of markers applied at two chordwise and 11 spanwise stations. The laser is shifted and anchored in a new position by a dedicated track.



In order to measure only the model deformation, the rigid rotation and displacement at model root has been measured with high accuracy. The vertical displacement has been measured through a micro-meter “comparator”. The model rigid rotation has been measured by a tilt sensor “Midori-precision” mounted at the root and linked in a rigid way to the wing root rib.





5 Test matrix

The test matrix was planned to focus the attention around the design lift coefficient in a range of speed below an over the design speed (from 30 to 40 m/s). The measurement of several turbulent free transition polar has been performed. Lift, drag and pressure were measured during all test matrix runs. Strain gauges measurements and deformation visualization were reported at the most significant polar points.

More than 50 tests have been performed. The Table 4 reports the most significant measurements suitable to the objectives of the RIBES project. The measurements of the model deformation, by laser scan, have an error below 0.3 mm.

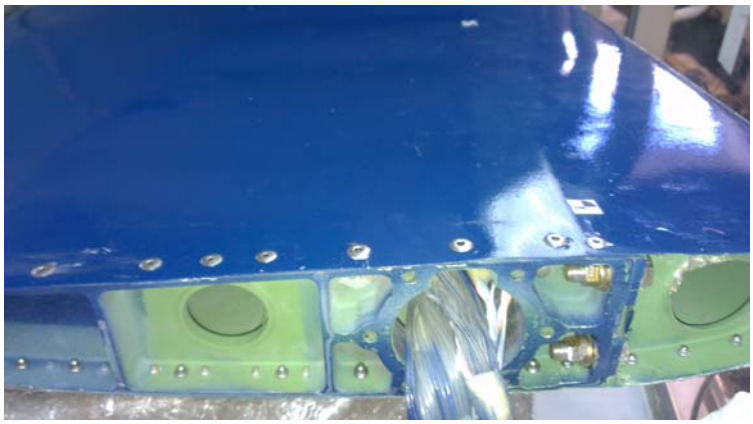
Table 4 – Wind tunnel test matrix

Name	flow speed	Reynolds	Measurements and Conditions
			CLEAN Conditions
TEST L30	30 m/s	1.06 mill.	Full polar (up to stall) free transition, L, D, M, Cp
TEST L40	40 m/s	1.43 mill.	Limited (up to 8°) polar free transition, L, D, M, Cp
			TURBULENT Conditions (b.l. tripped at 1.4 %c)
TEST T30	30 m/s	1.06 mill.	Full polar fixed trans., L, D, M, Cp, strain
TEST T35	35 m/s	1.25 mill.	Full polar fixed trans., L, D, M, Cp, strain
TEST T40	40 m/s	1.43 mill.	Limited (up to 8°) polar fixed trans., L, D, M, Cp, strain
			Model deformation measurement
TEST Da6	40 m/s	1.43 mill.	α = 6°, L = 60.3 Kgf fixed trans., L, D, M, strain, model deformation

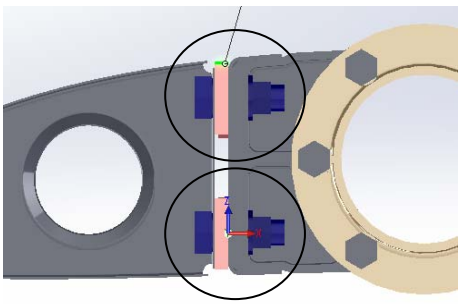
5.1 Model structure check during tests

Before final tests, including strain gauge and model deformation measurement, the model has been reinforced in the junction between the upper and lower skin and the thick machined root rib. This action was decided after some tests in order to be sure the loads to be properly transferred

from the skin to the rib. Some additional high-strength rivets were then added at the connection between the skin and the root rib of the model.



The bolts linking the front spar to the root rib were also object of periodical verification. It was observed, in fact, the tighten level of the two bolts to have an impact on the stress state in the root region both on the main spar and on the skin.



6 TEST RESULTS

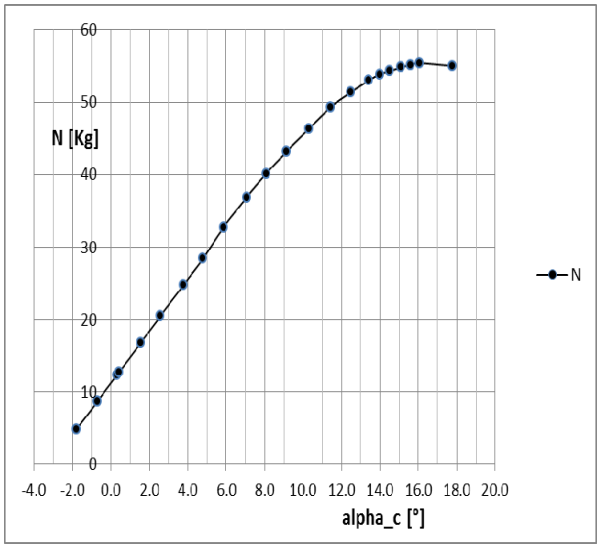
6.1 Forces and aerodynamic coefficients

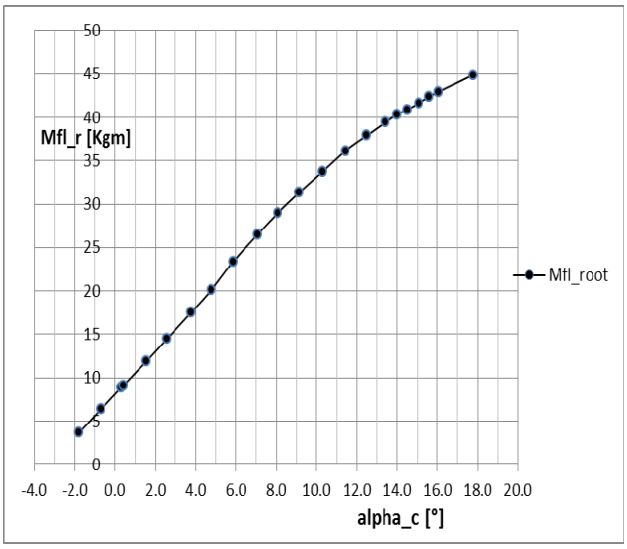
In the following graphs the measured forces and aerodynamic coefficients of the tests performed with clean model (no transition trip) and with transition imposed are reported. All data are also reported in the Appendix with tables.

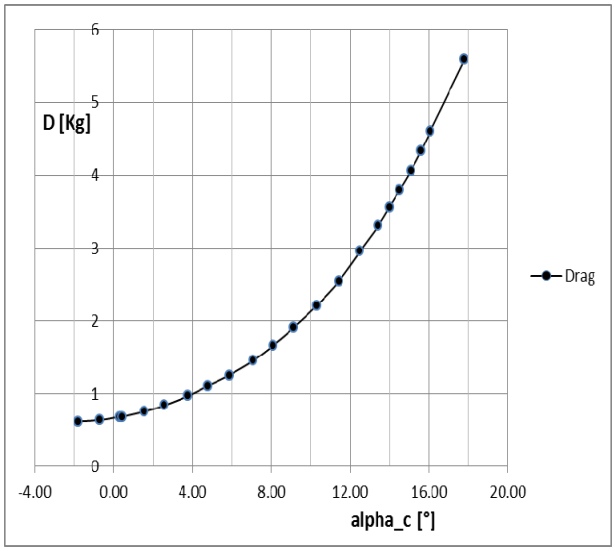
At high speed (35 - 40 m/s) the angle of attack was limited due to the limit in the bending moment absorbed by the balance.

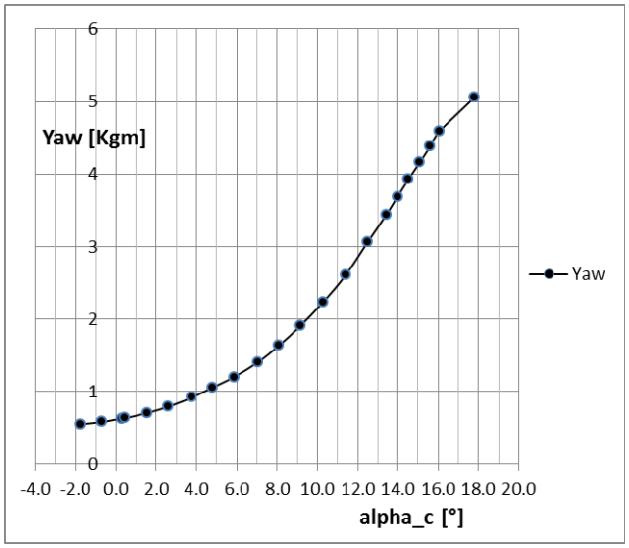
6.1.1 TEST L30: V=30 m/s, Clean Model (no transition imposed, laminar flow)

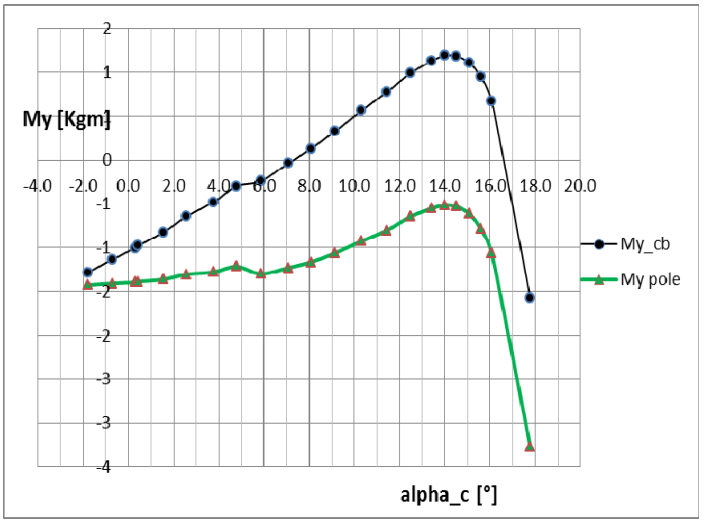
Forces and Moments



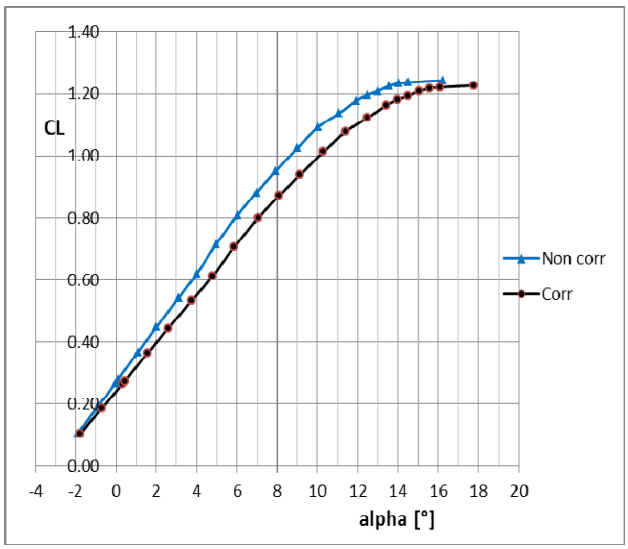


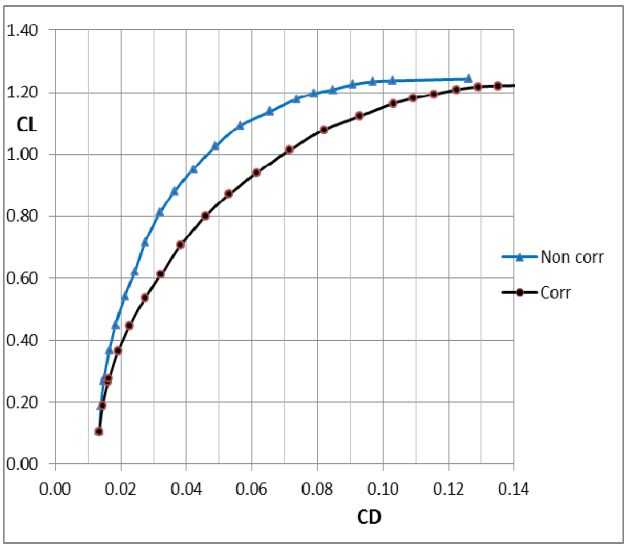


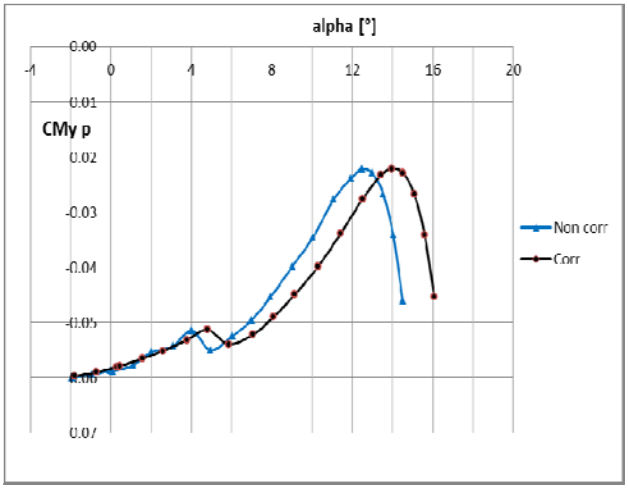


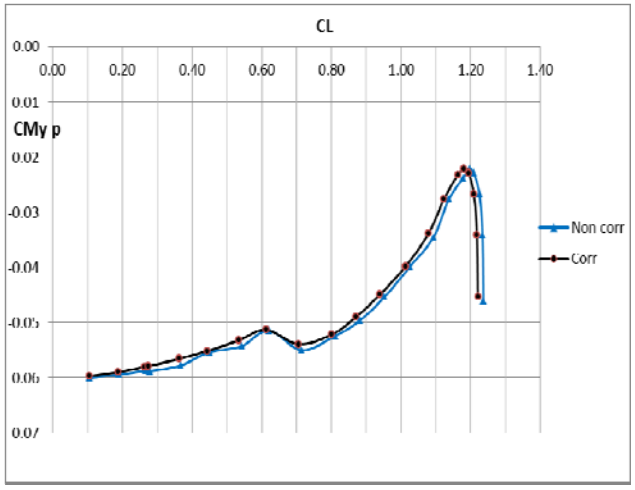


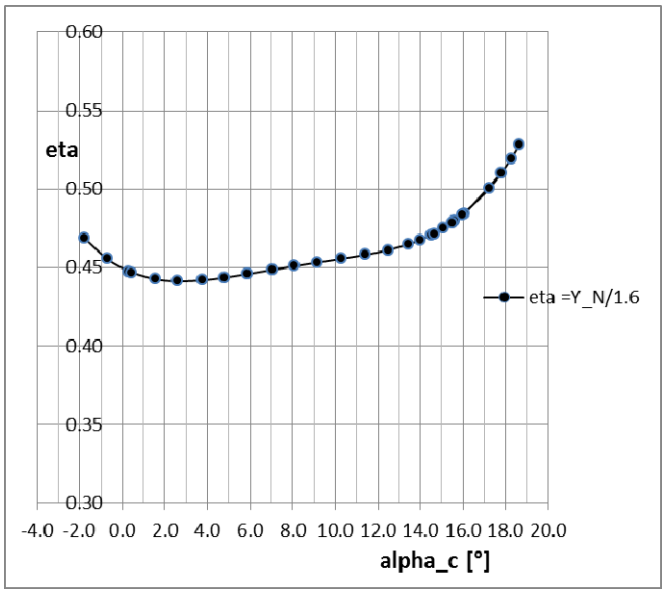
Aerodynamic coefficients

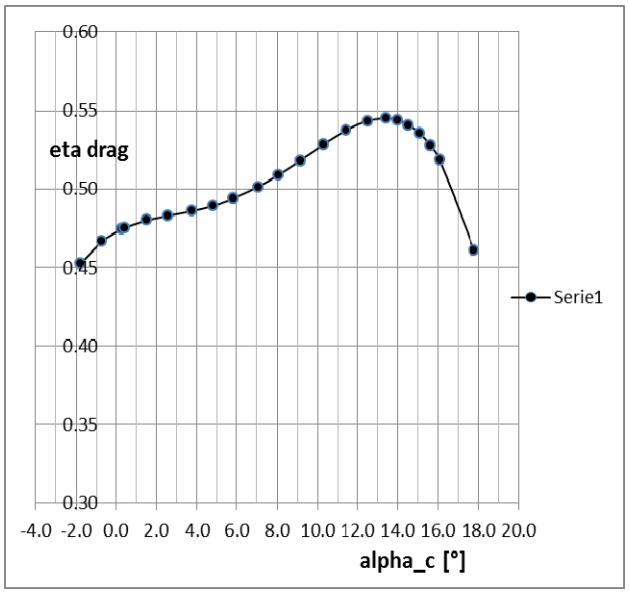






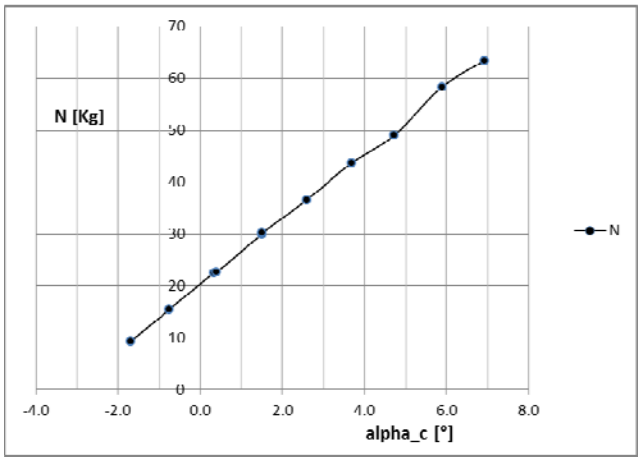


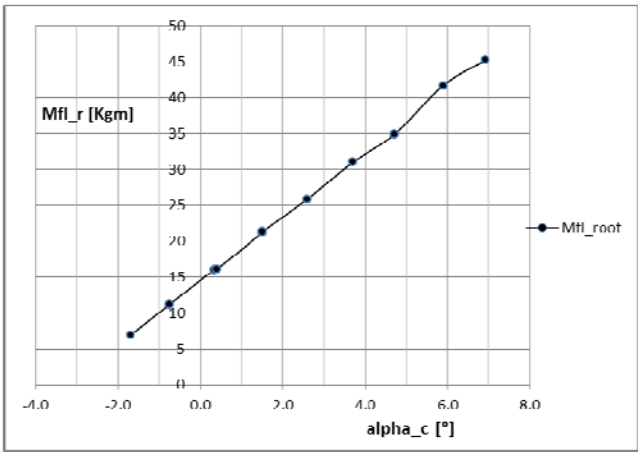


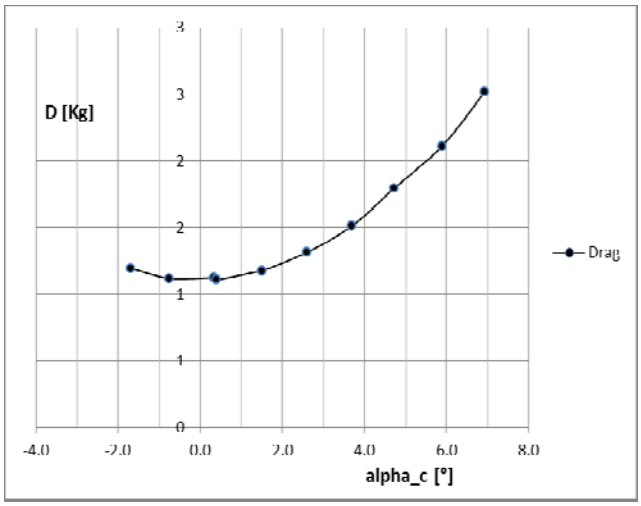


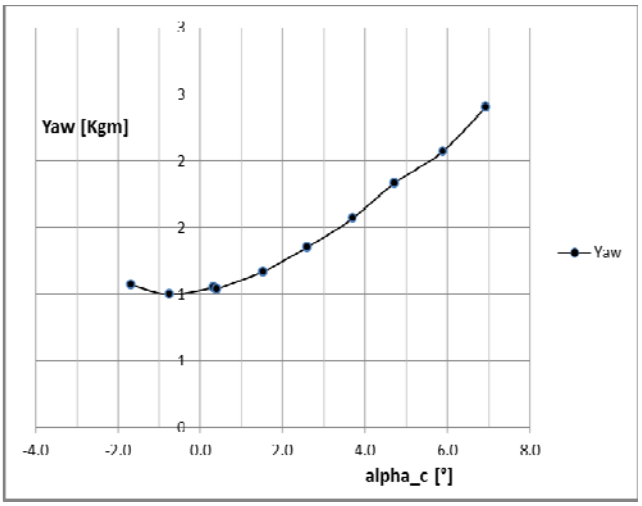
6.1.2 TEST L40: V=40 m/s, Clean Model (no transition imposed, laminar flow)

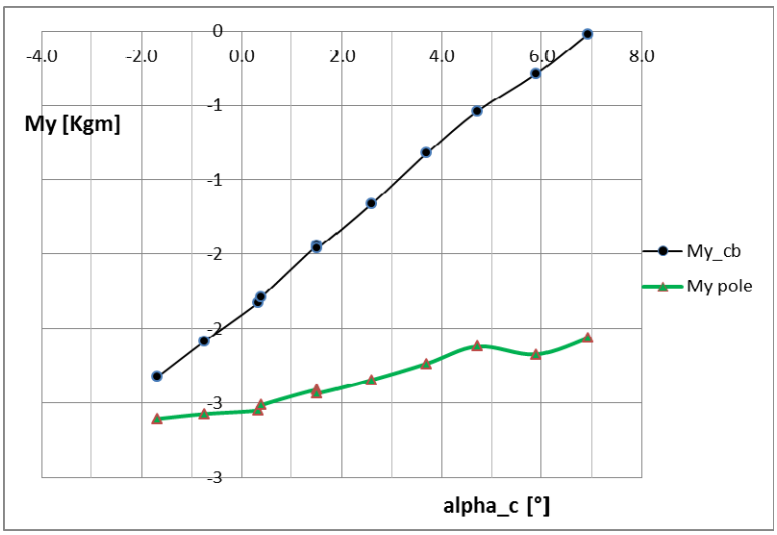
Forces and Moments



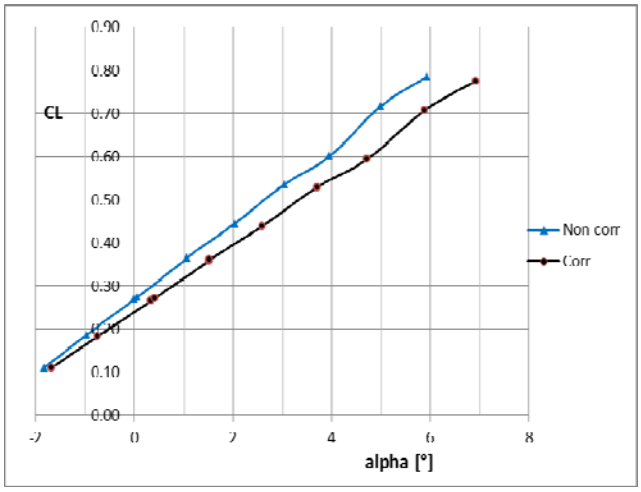


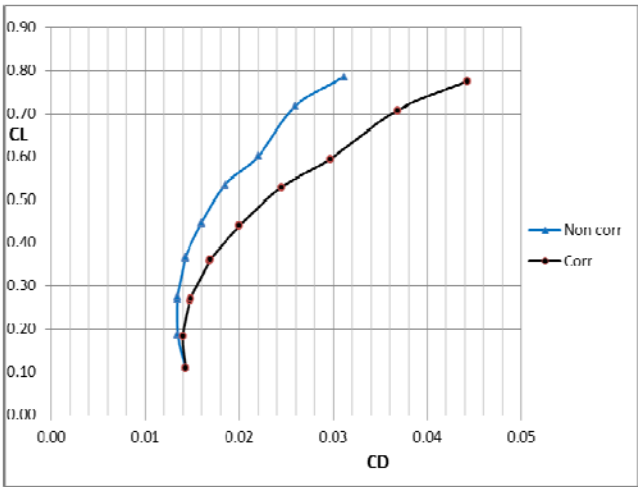


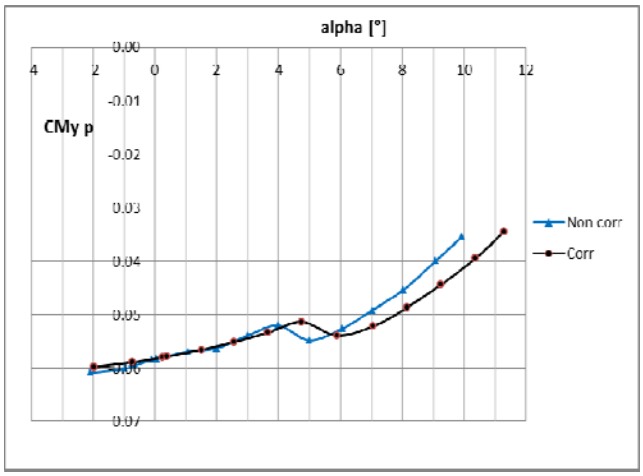


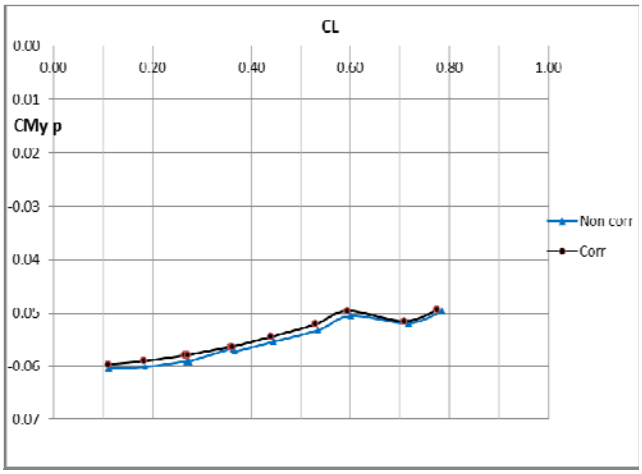


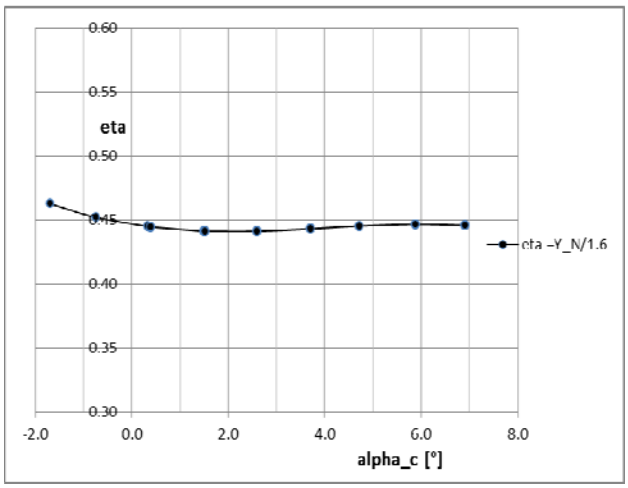
Aerodynamic coefficients

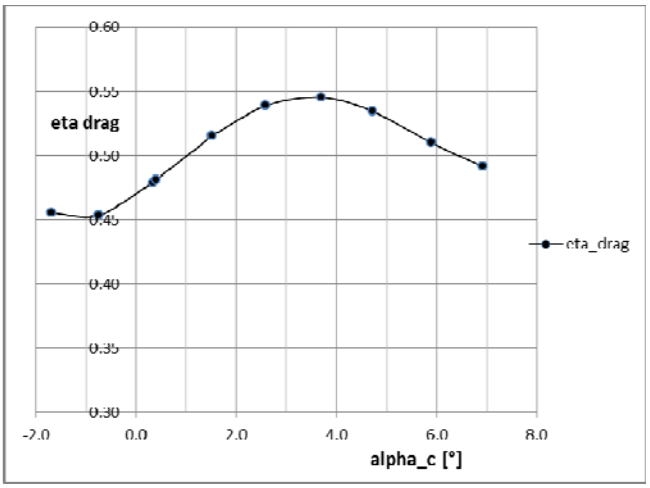






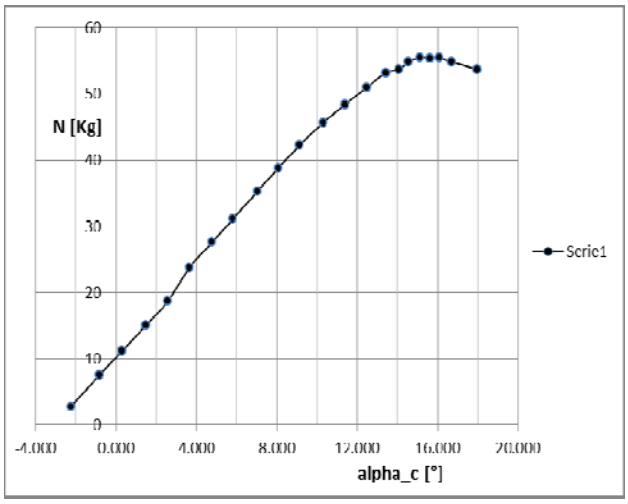


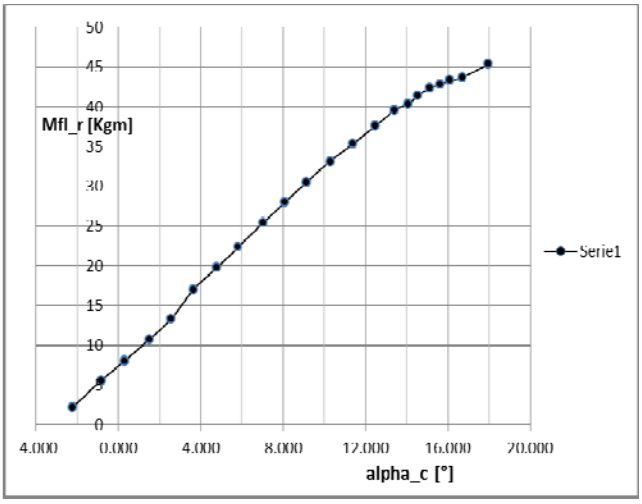


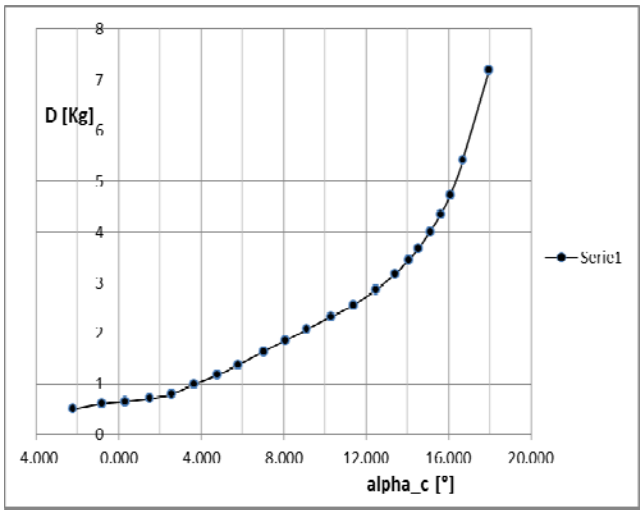


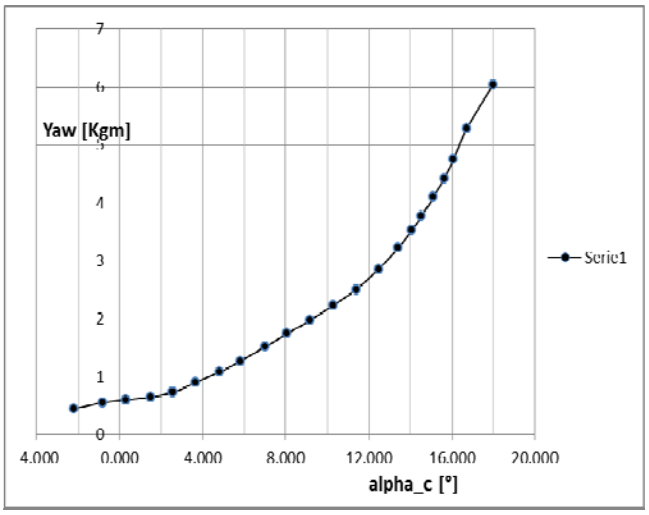
6.1.3 TEST T30, V=30 m/s, Transition trips at x/c= 0.014

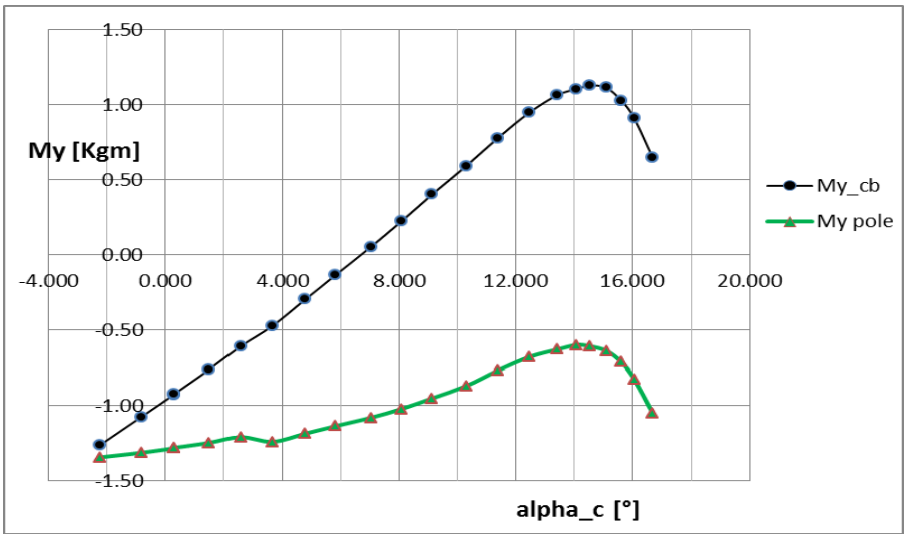
Forces and Moments



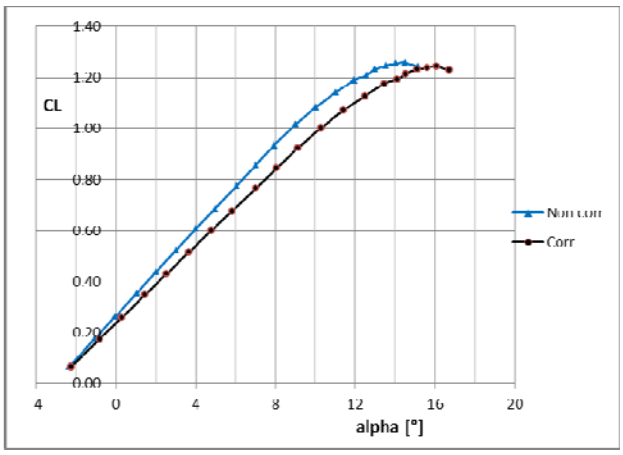


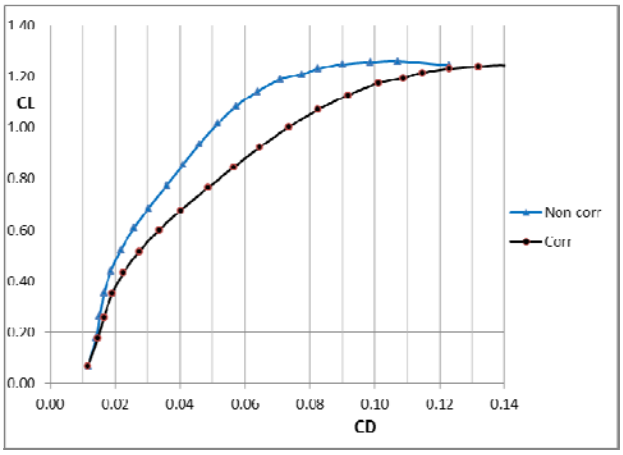


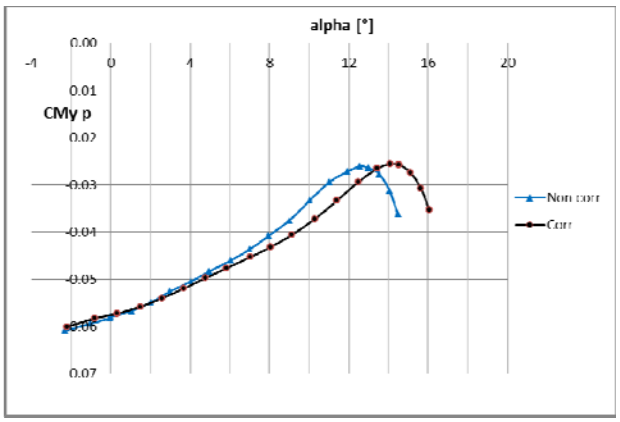


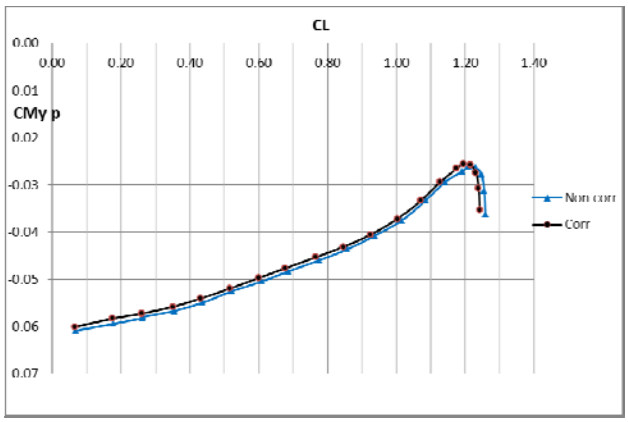


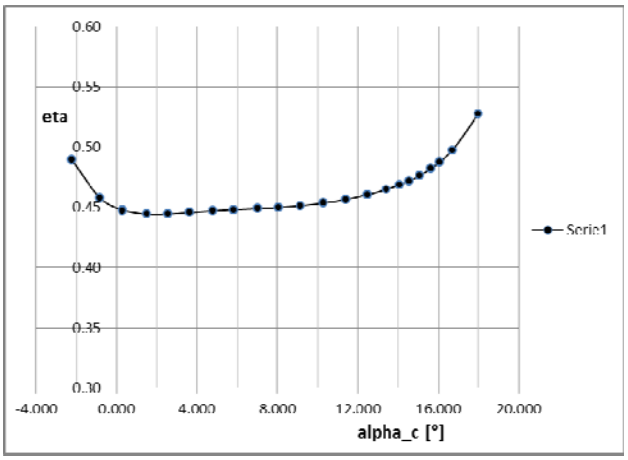
Aerodynamic coefficients

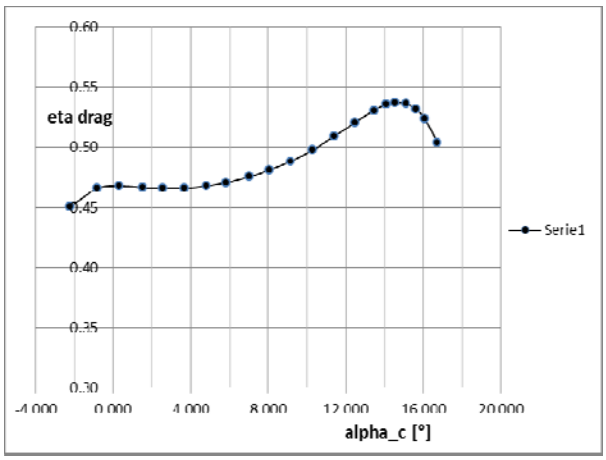






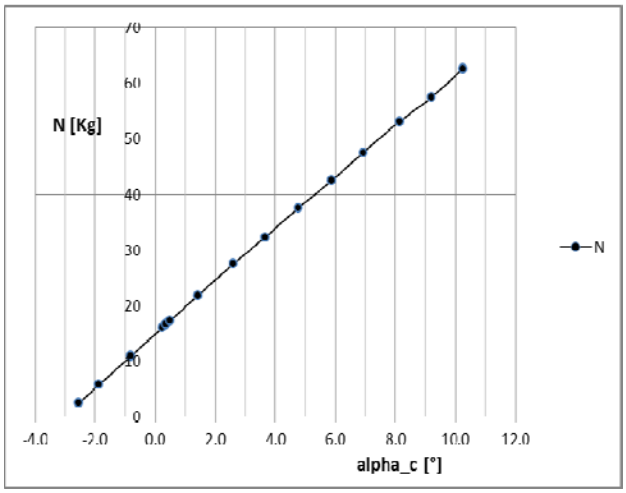


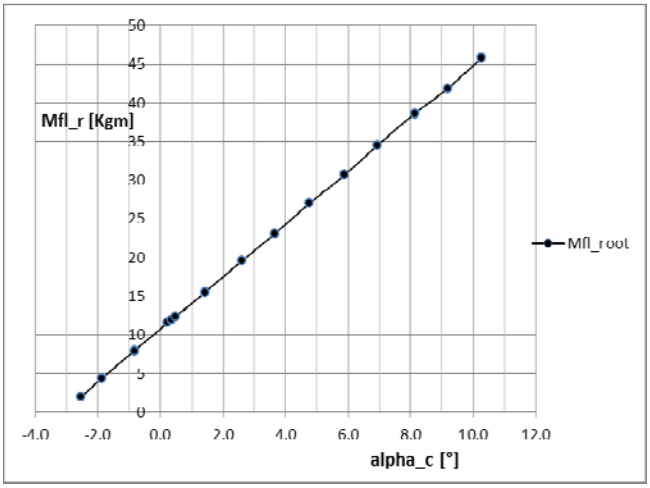


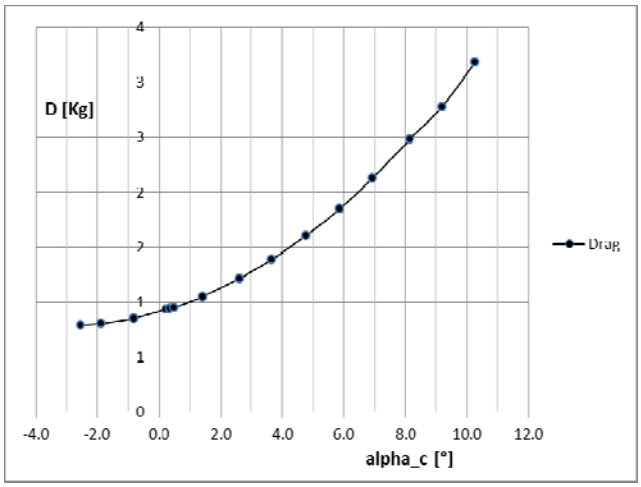


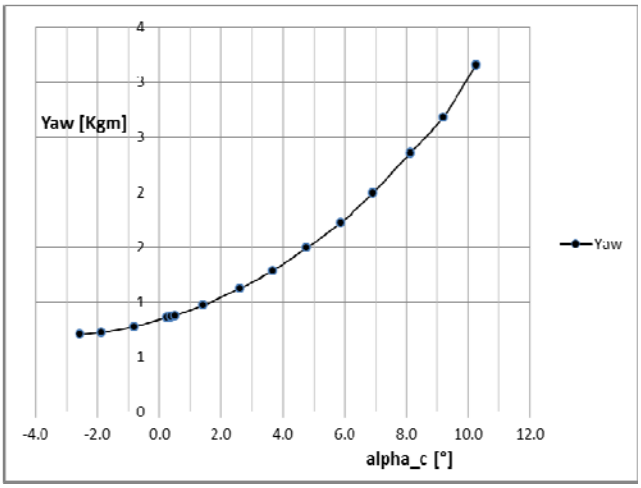
6.1.4 TEST T35: V=35 m/s, Transition trips at x/c=0.014

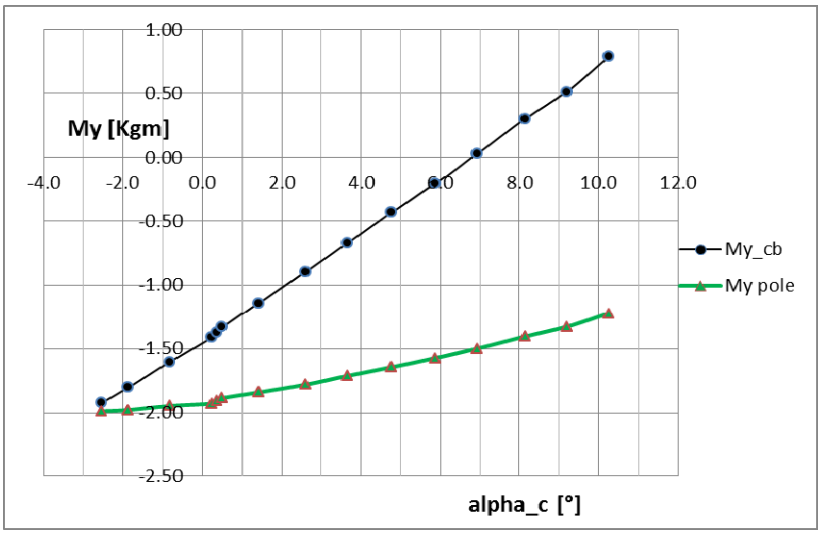
Forces and Moments



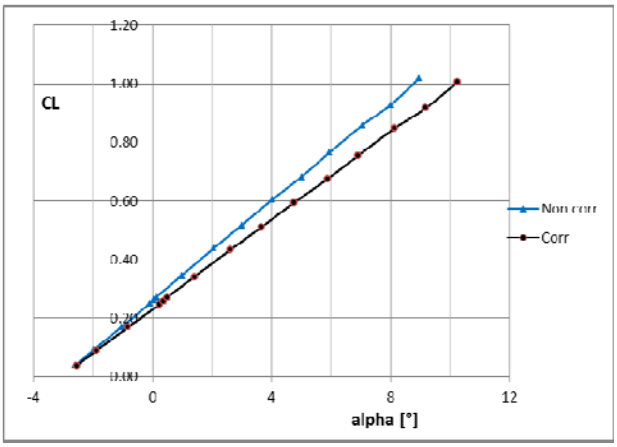


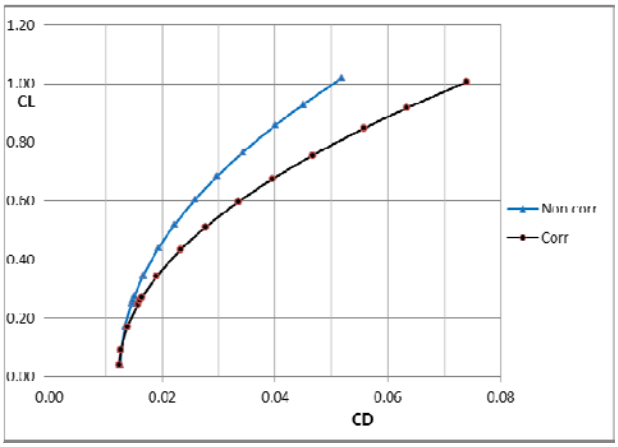


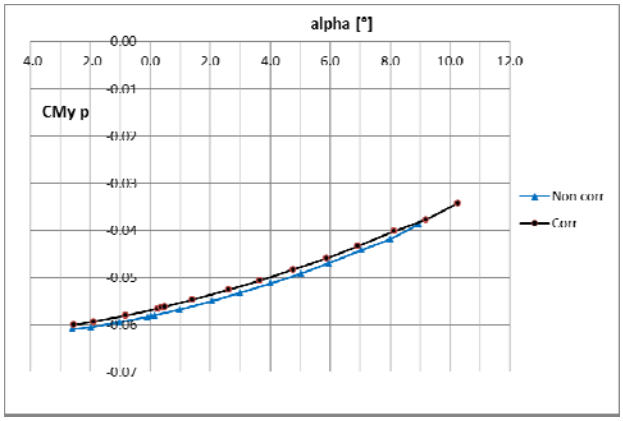


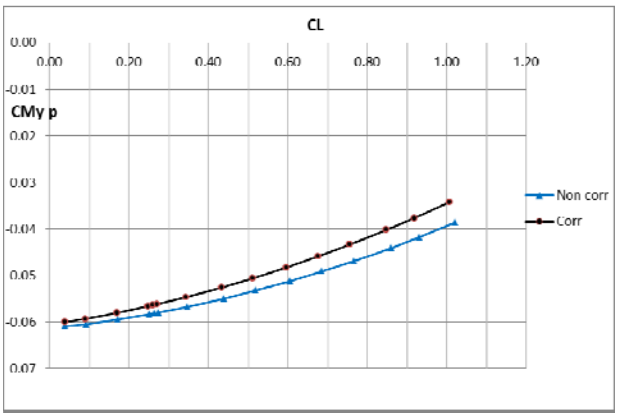


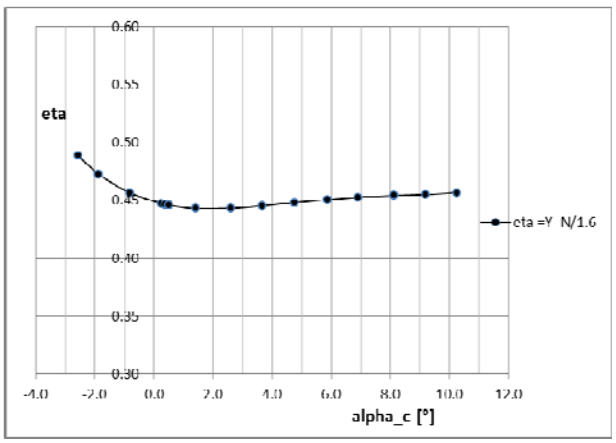
Aerodynamic coefficients

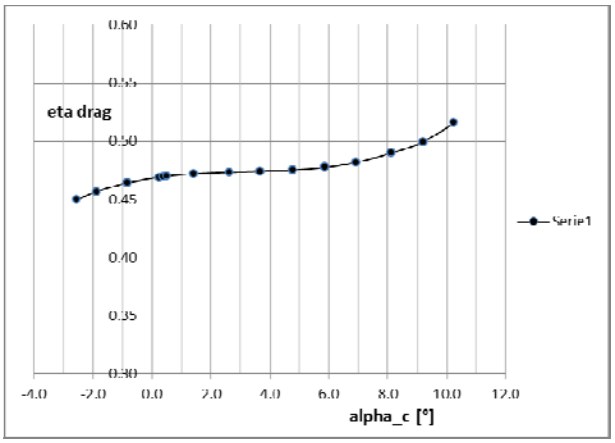






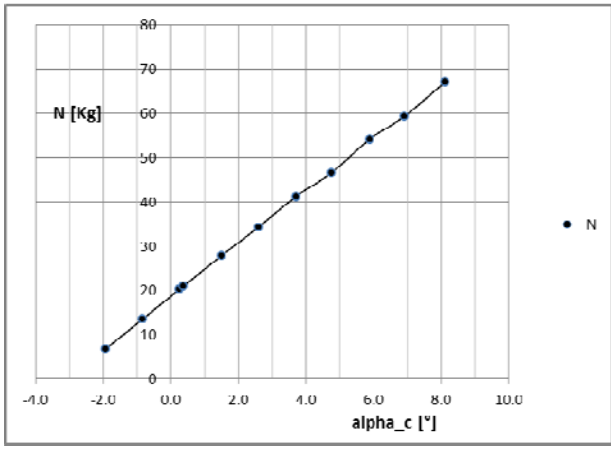


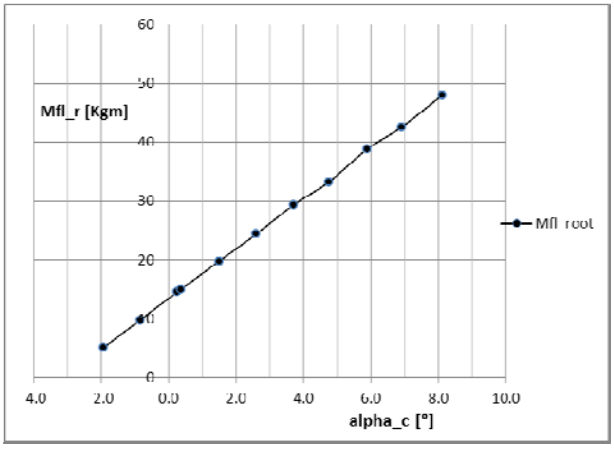


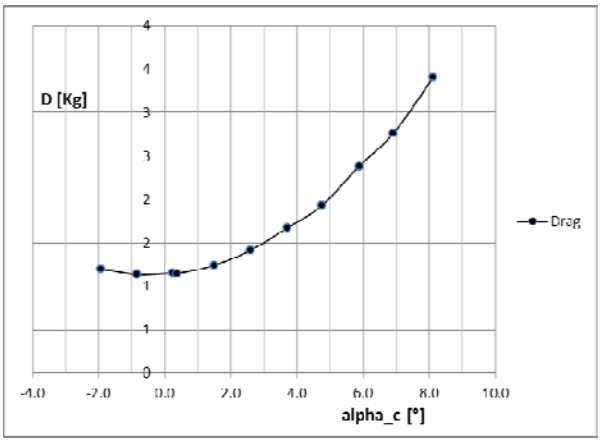


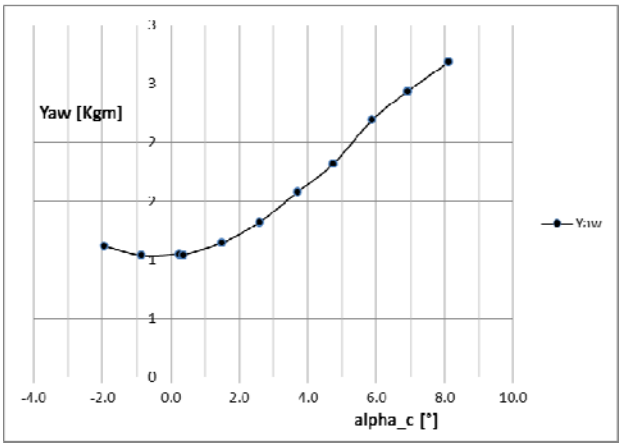
6.1.5 TEST T40: V=40 m/s, Transition trips at x/c=0.014

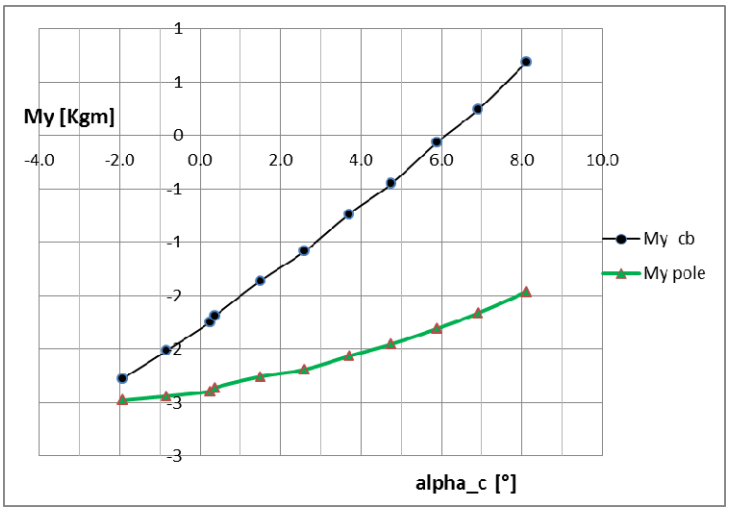
Forces and Moments



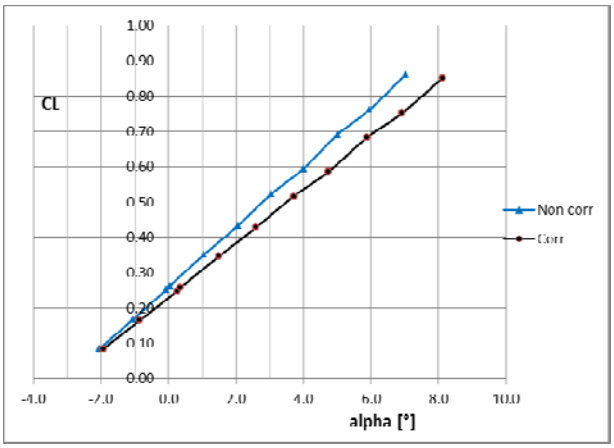


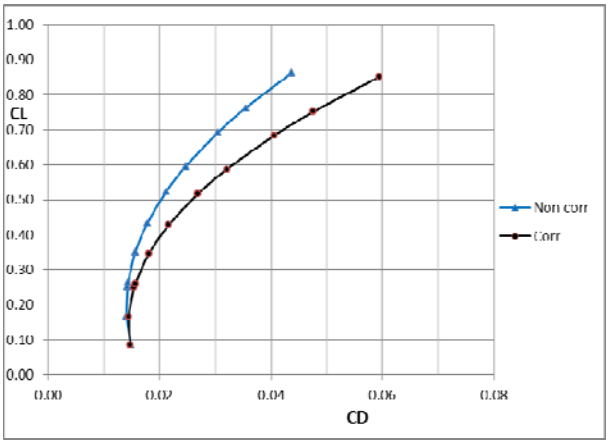


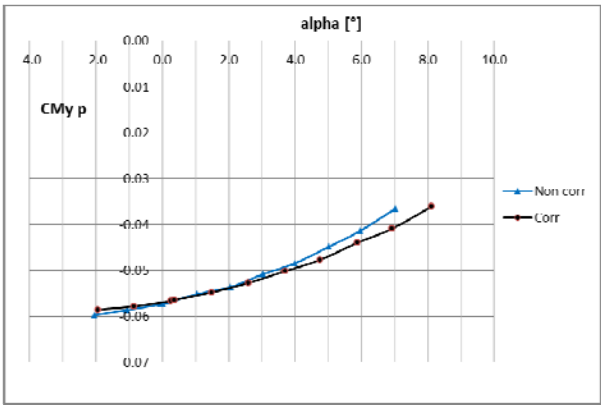


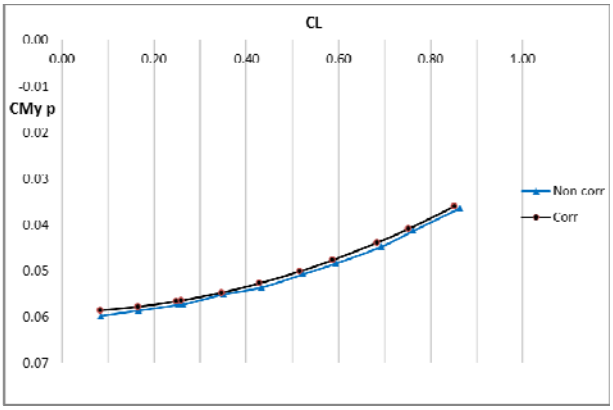


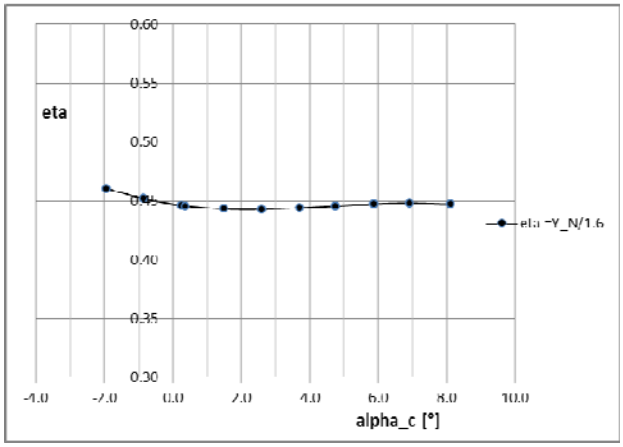
Aerodynamic coefficients

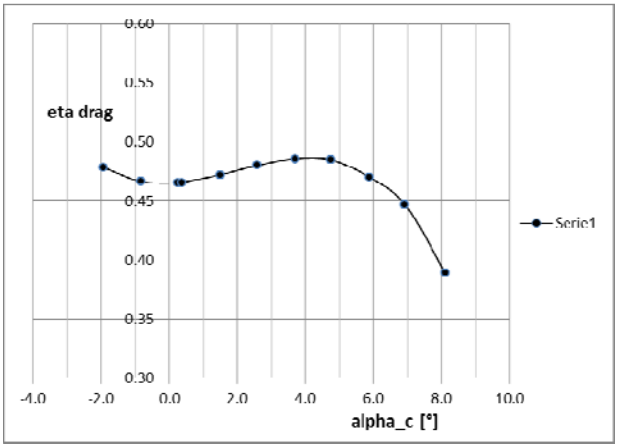












6.2 Pressure measurements

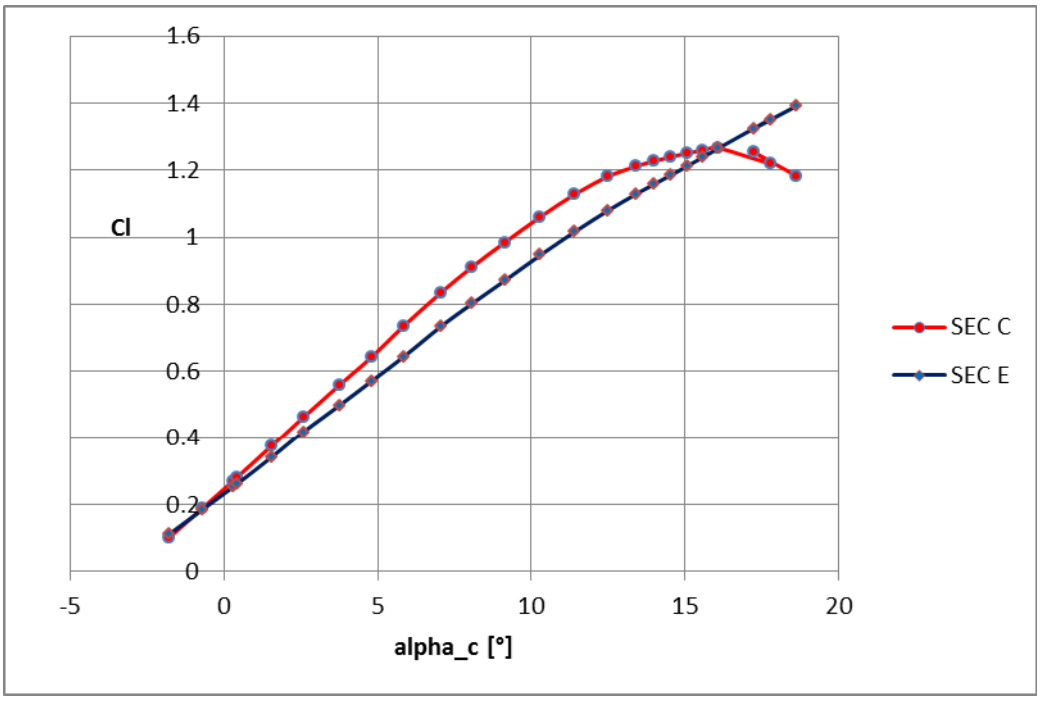
In the following graphs the measured pressures (transformed in pressure coefficients) are reported for the tests performed with clean model (no transition trip) and with transition imposed. All data are also reported in the Appendix B with tables.

At high speed (35-40 m/s) the angle of attack has been limited due to the limit in the bending moment absorbed by the balance

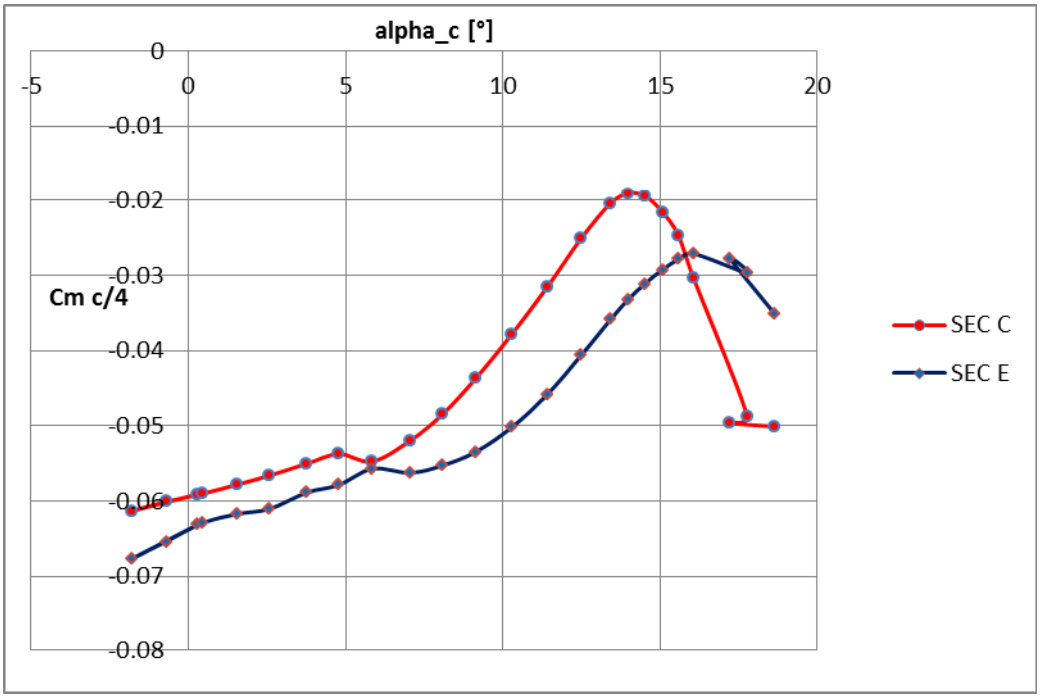
The graph reported show pressure coefficient distribution measured in section C and section E and also in section A,B (only 3 points) and D,F (4 points). Another graph will show the same pressure coefficient plotted versus the y-position (non-dimensional, eta=y/(1600)) showing the aerodynamic load along the wing span.

All data concerning pressure measurements can be found in Appendix B.

6.2.1 TEST L30: V=30 m/s, Clean Model (no transition imposed, laminar flow)

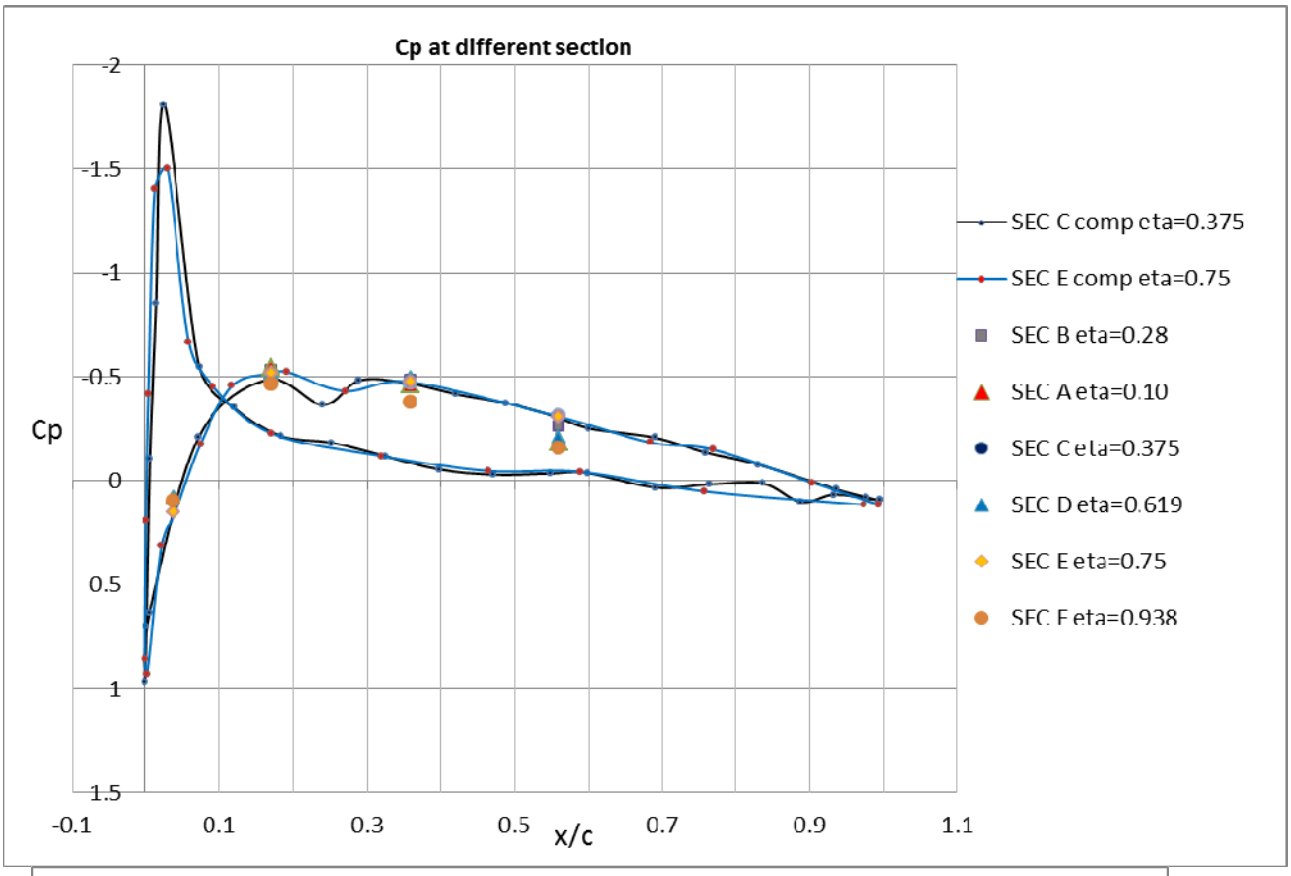


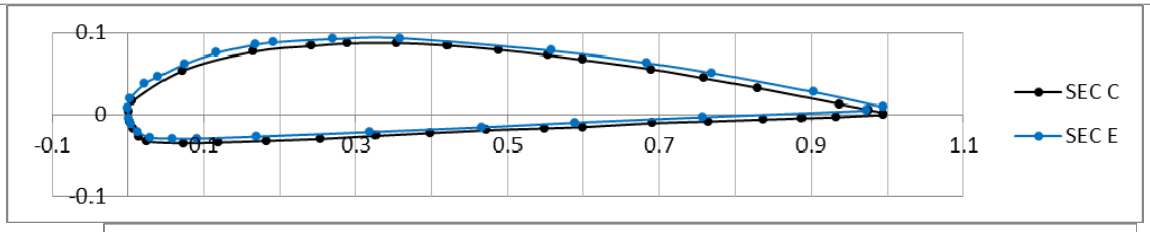
2-D Aerodynamic lift coefficient (corrected for solid block) Cl extracted from pressure distribution

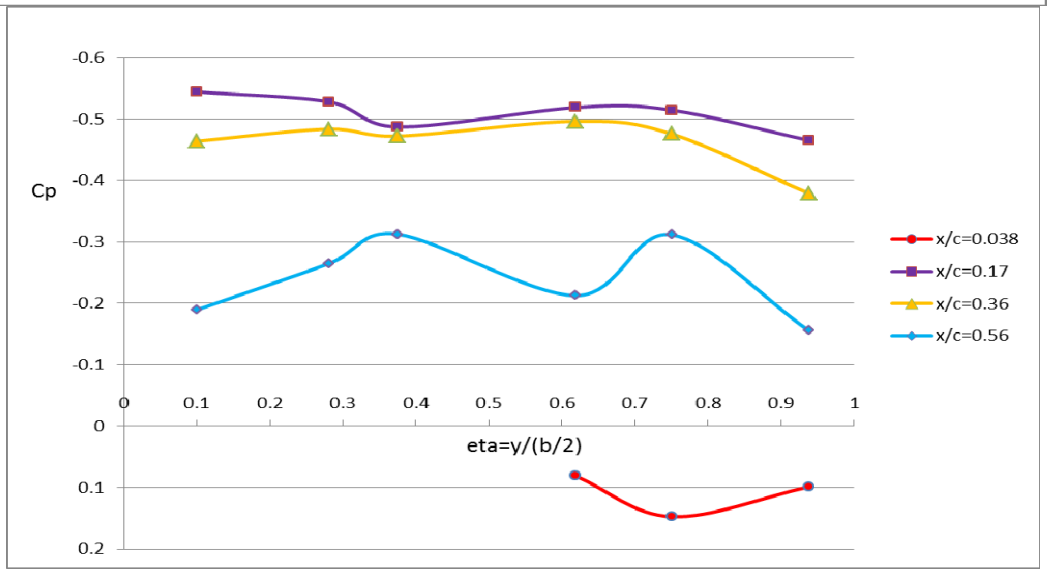


2-D Aerodynamic moment coefficient r.t.25% chord (corrected for solid block) extracted from pressure distribution

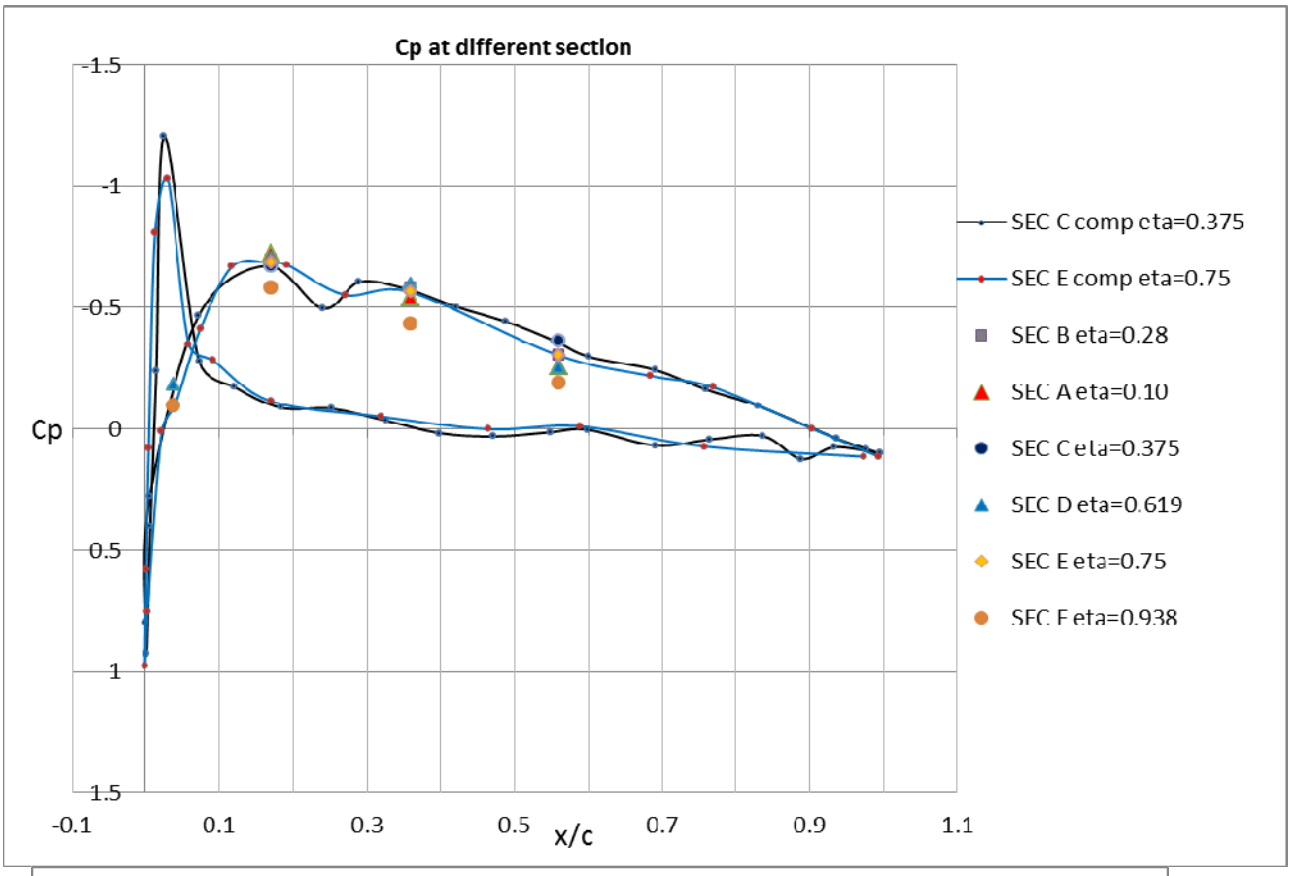
alpha_c=-1.80°

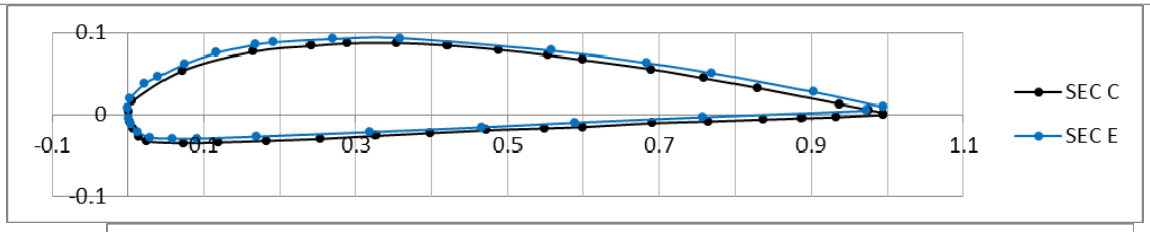

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

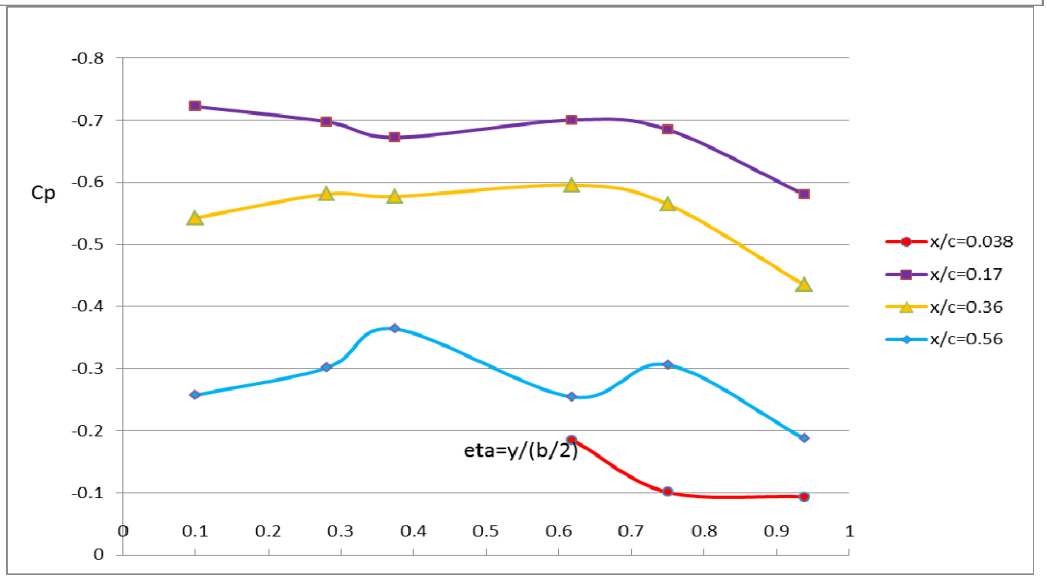

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

alpha_c=0.43°


Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938


SEC C
SEC E


Cp
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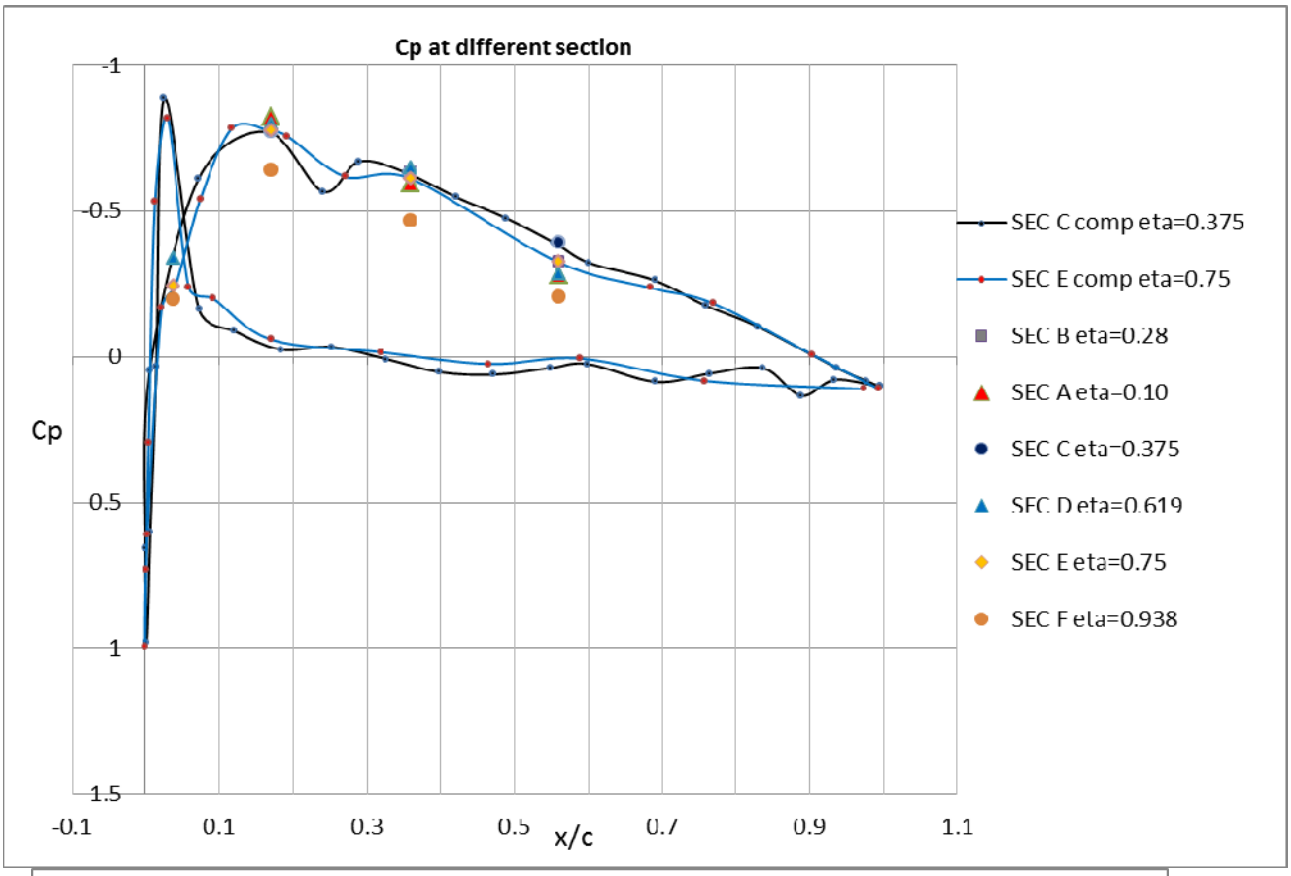
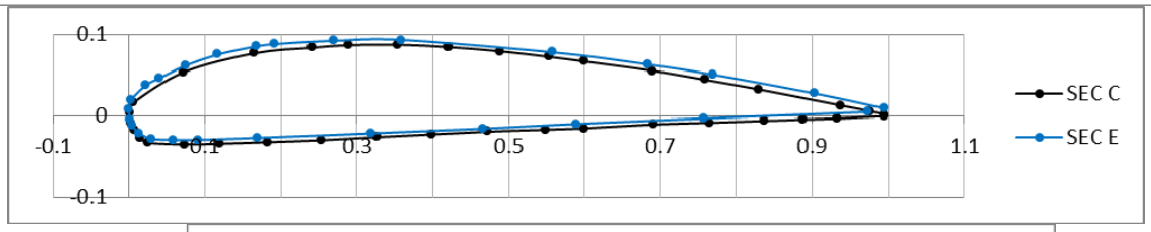
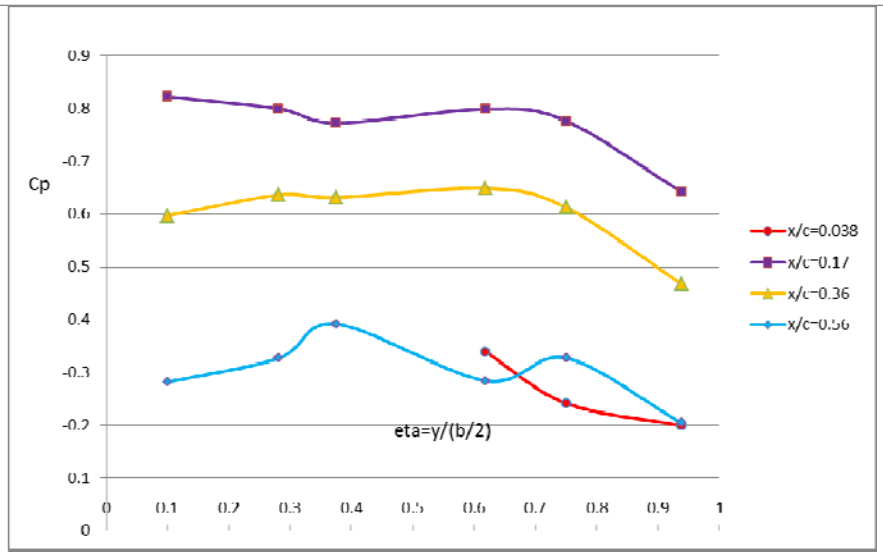
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

alpha_c=1.55°


Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938


SEC C
SEC E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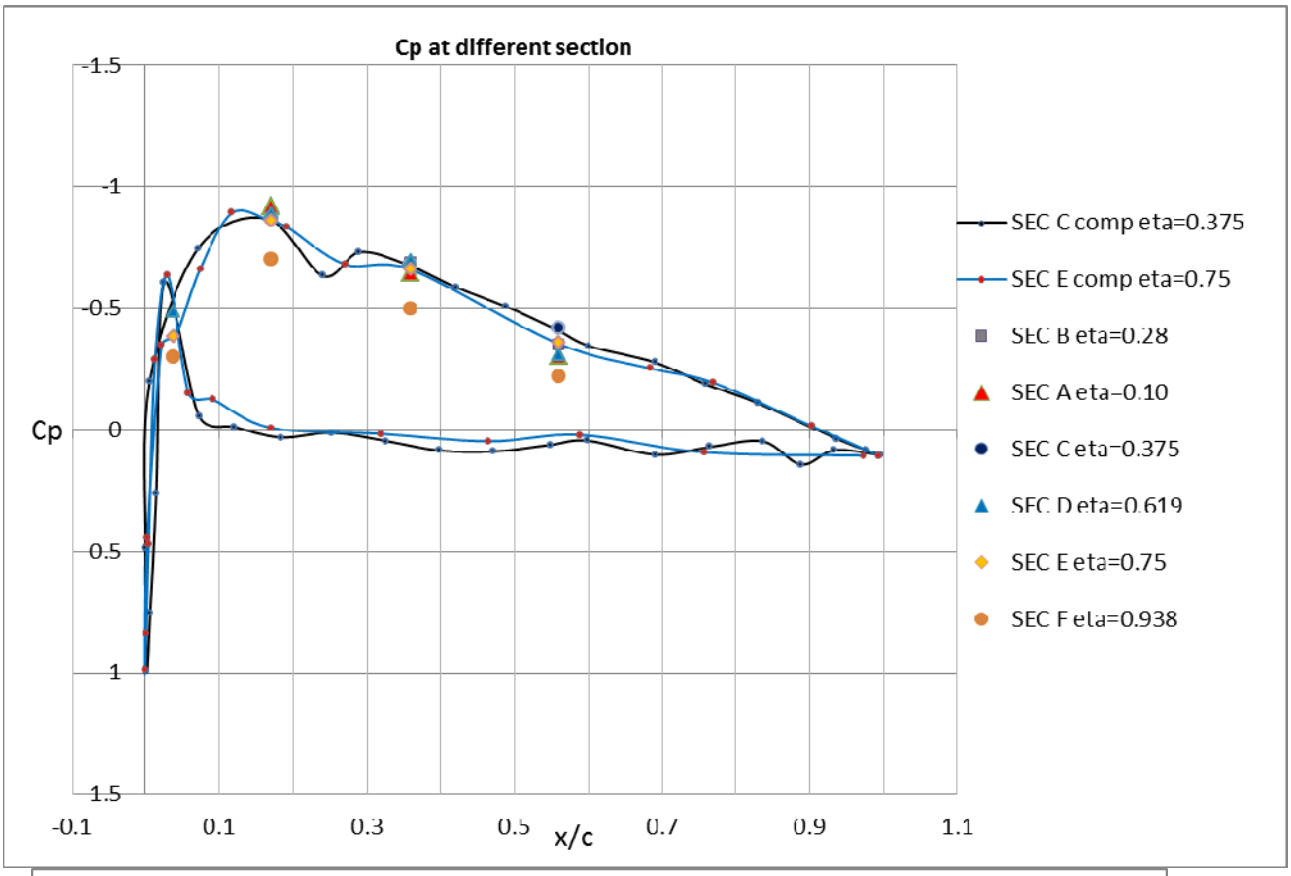
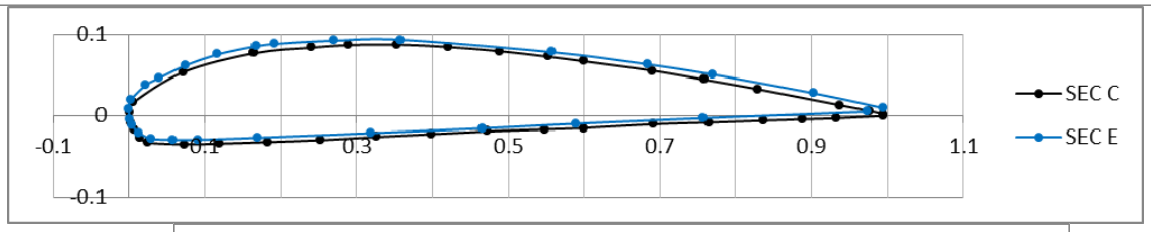
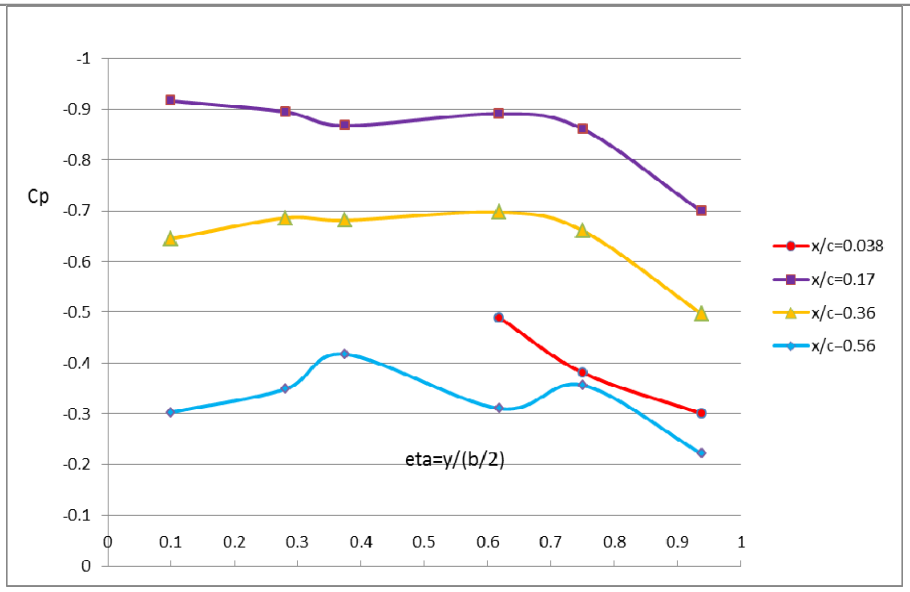
alpha_c=2.58°


Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938


SEC C
SEC E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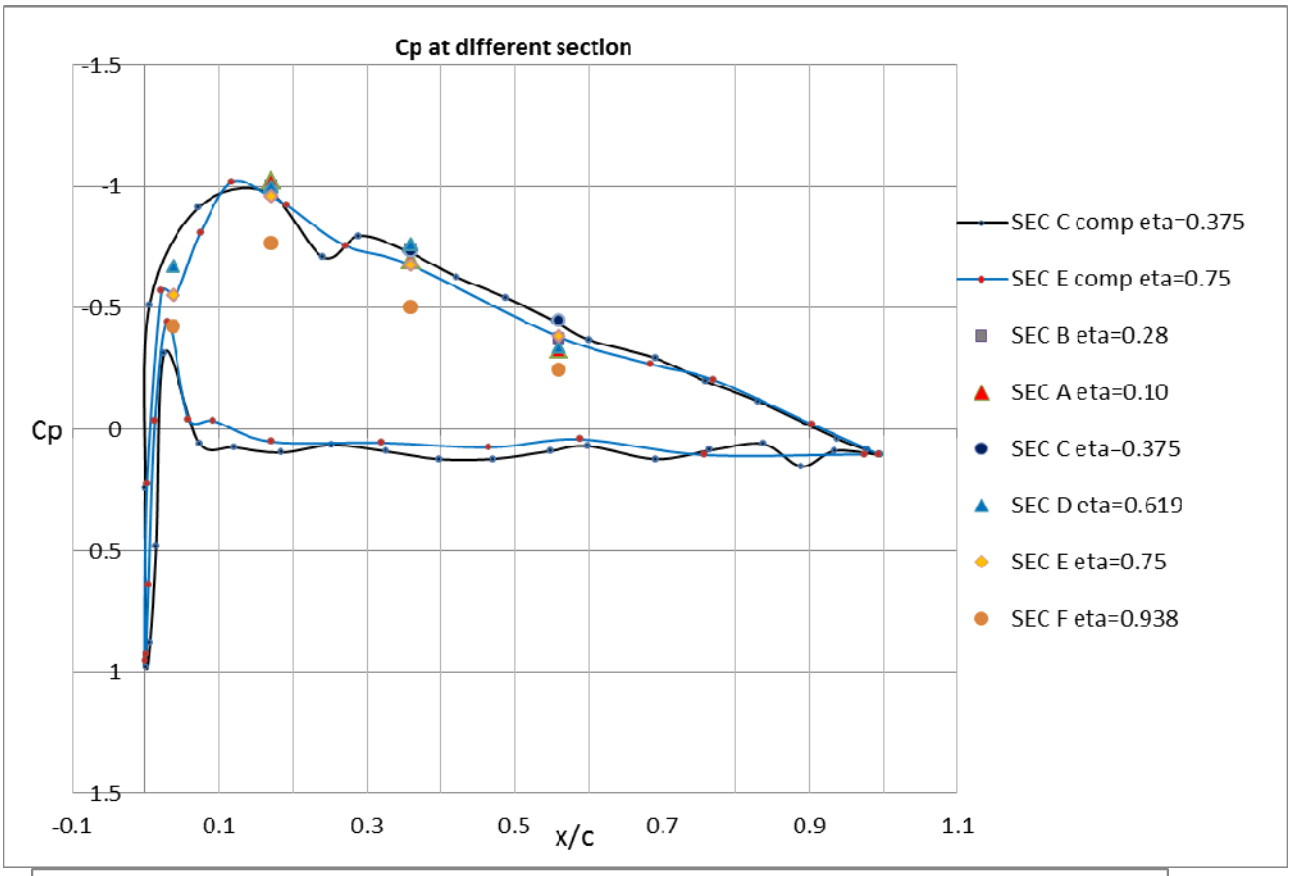
x/c=0.56

alpha_c=3.77°


Cp at different section
Cp
x/c
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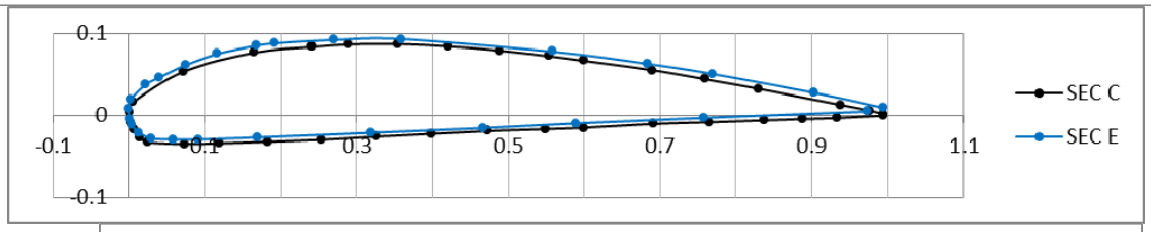
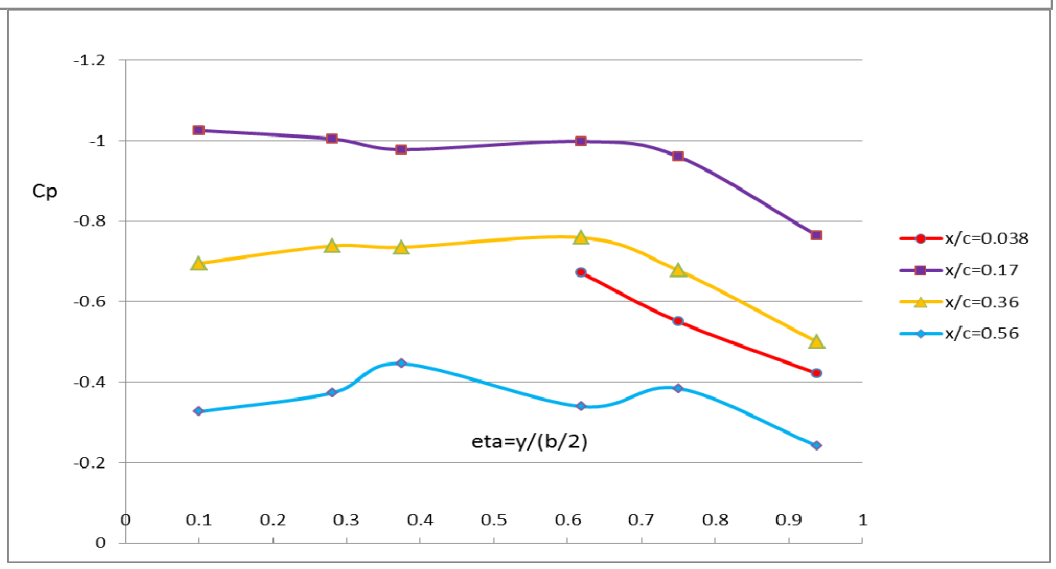
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938


SEC C
SEC E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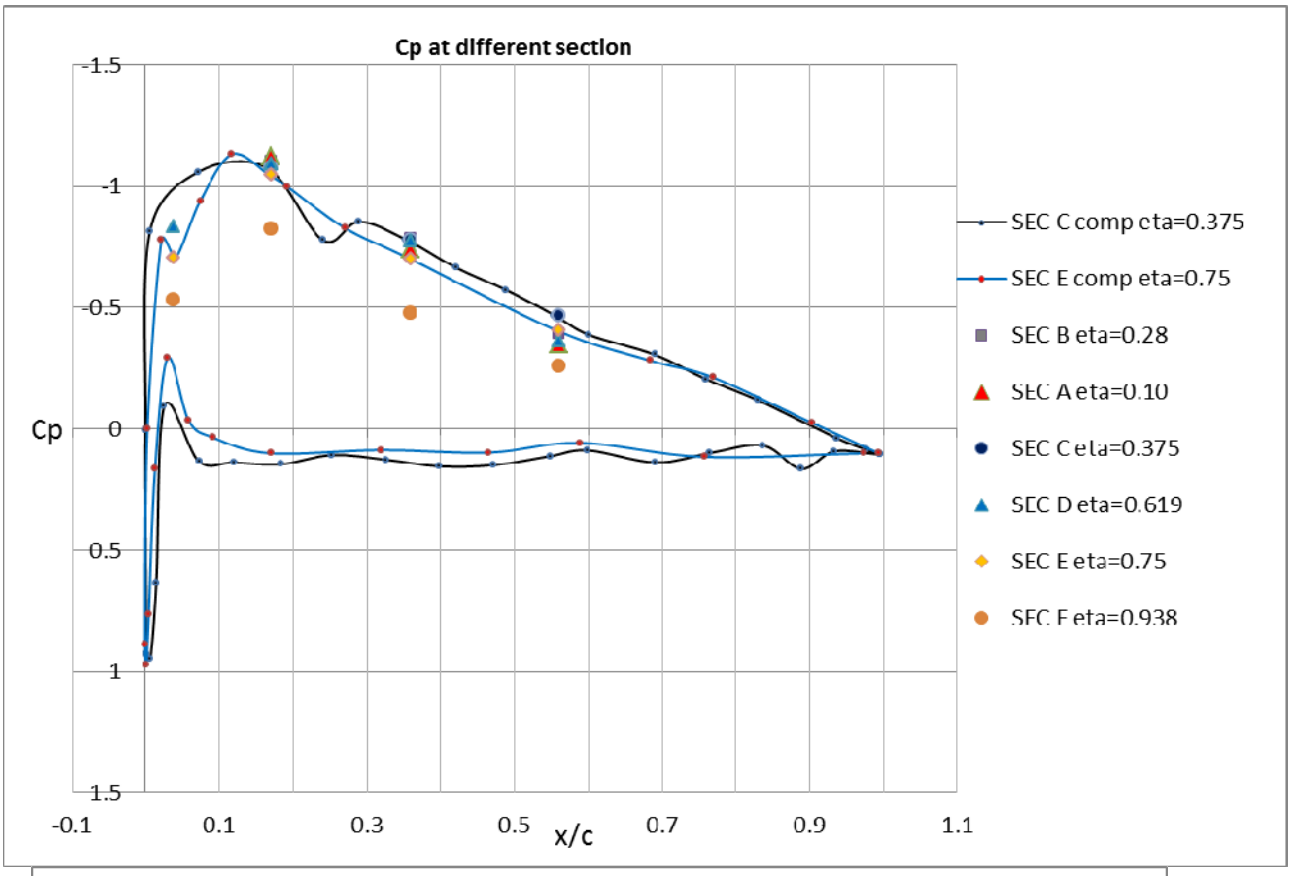
alpha_c=4.79°


Cp at different section
Cp
x/c
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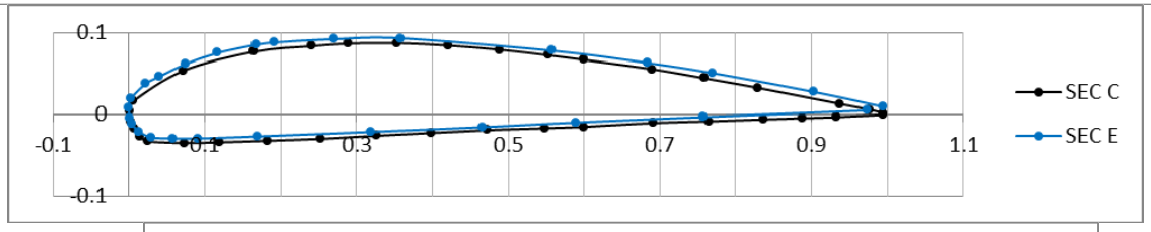
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938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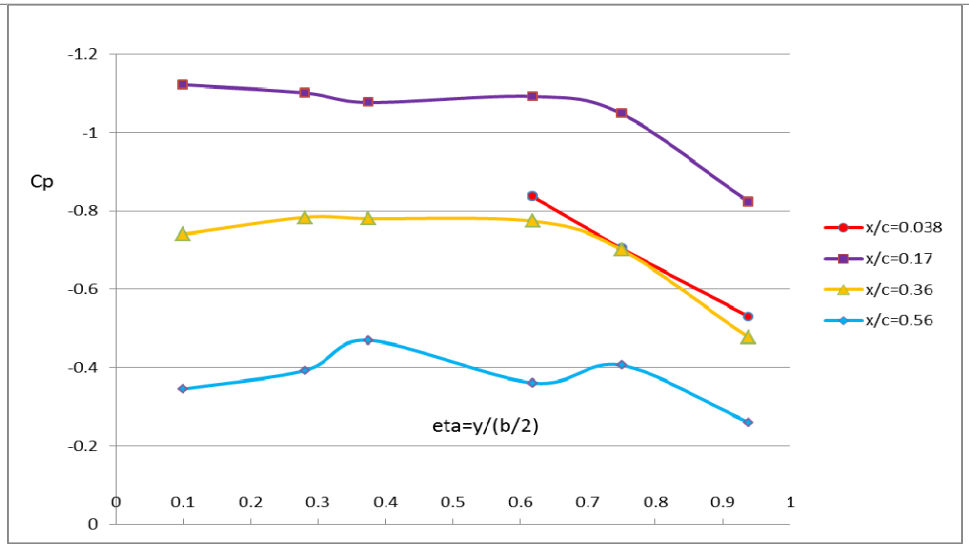
SEC E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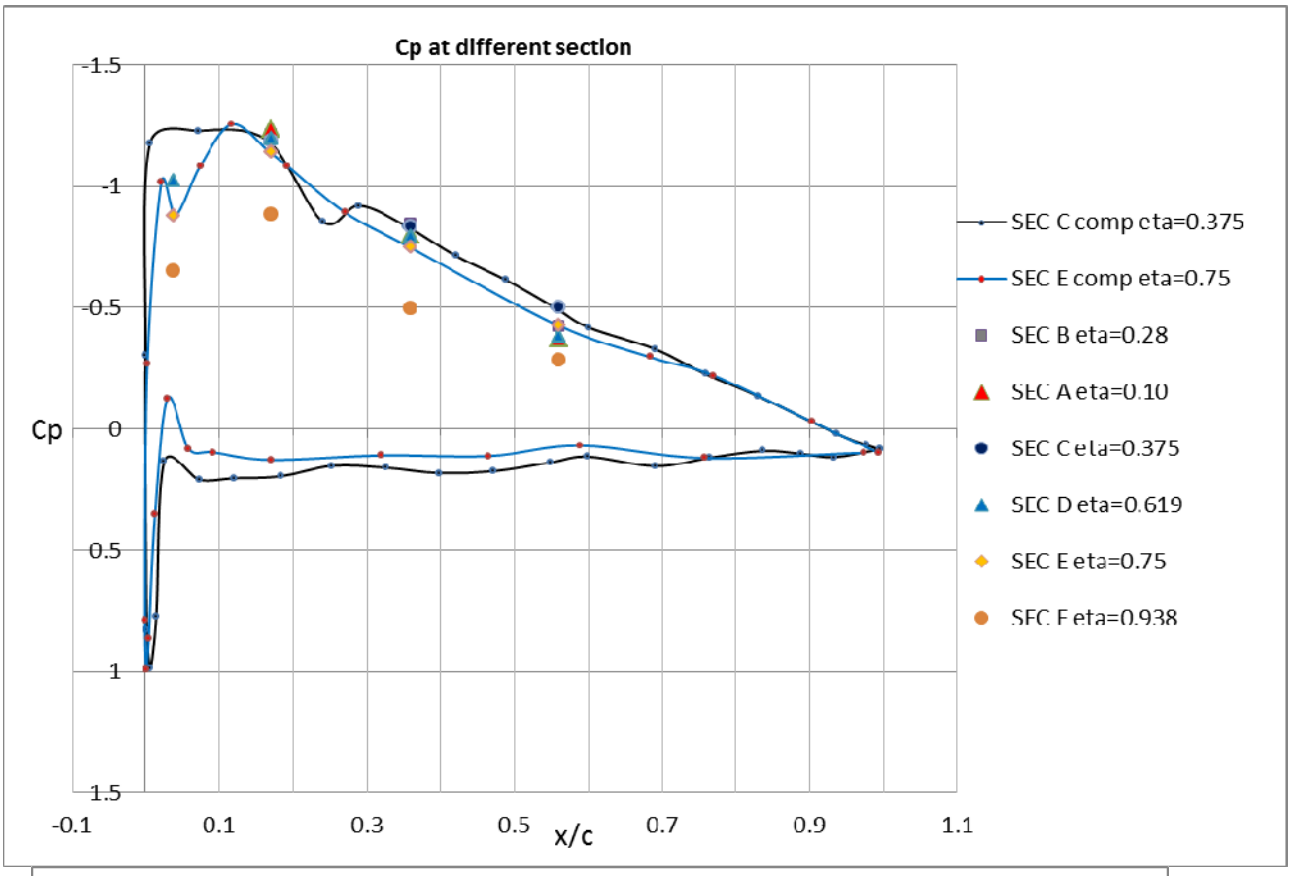
x/c=0.36
x/c=0.56

alpha_c=5.85°


Cp at different section
Cp
x/c
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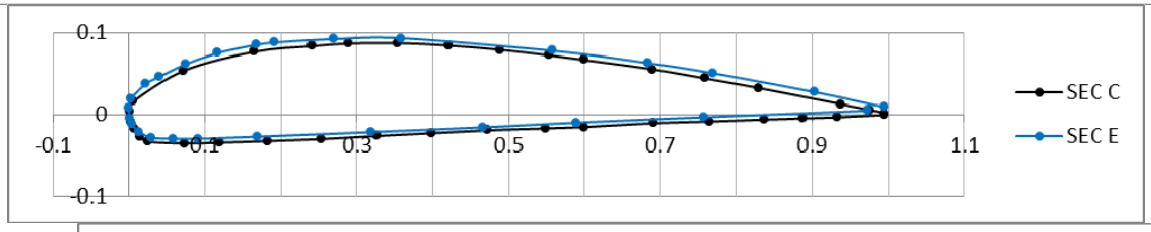
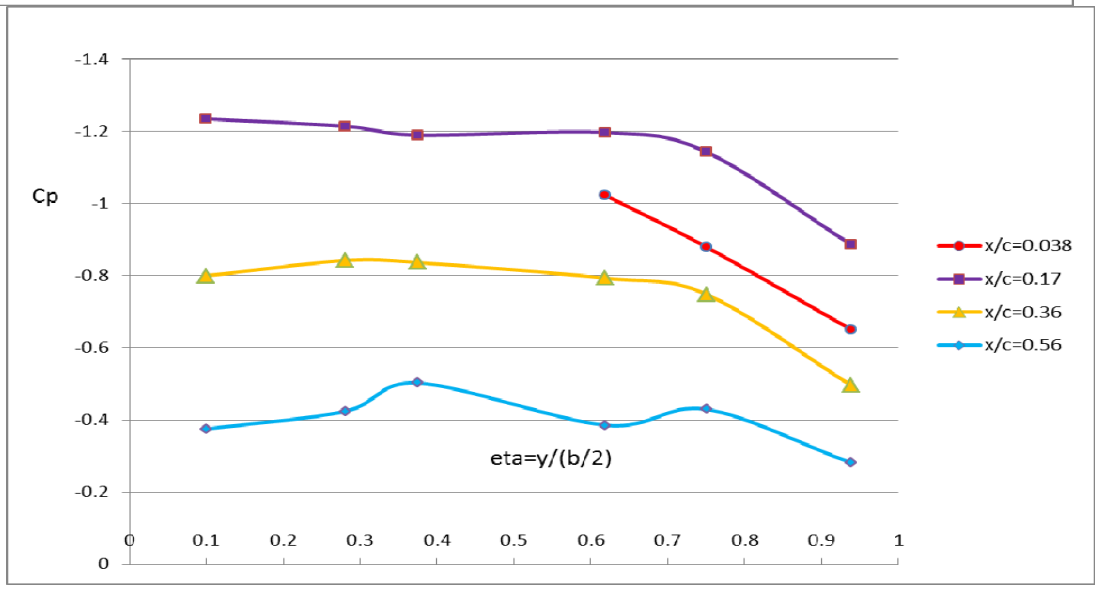
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938


SEC C
SEC E


Cp
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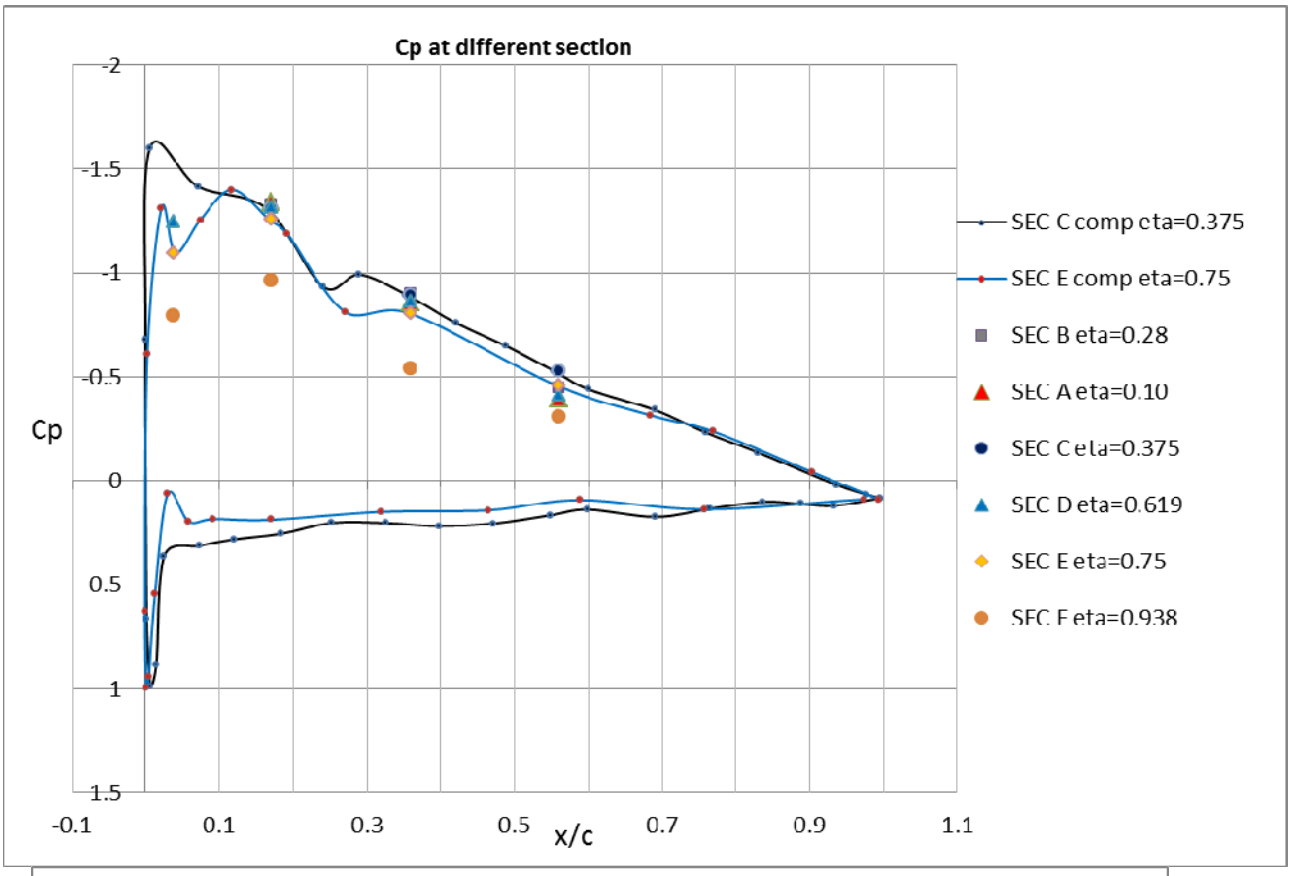
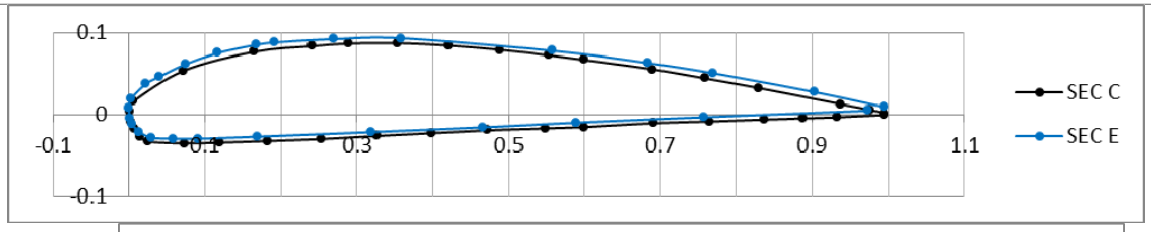
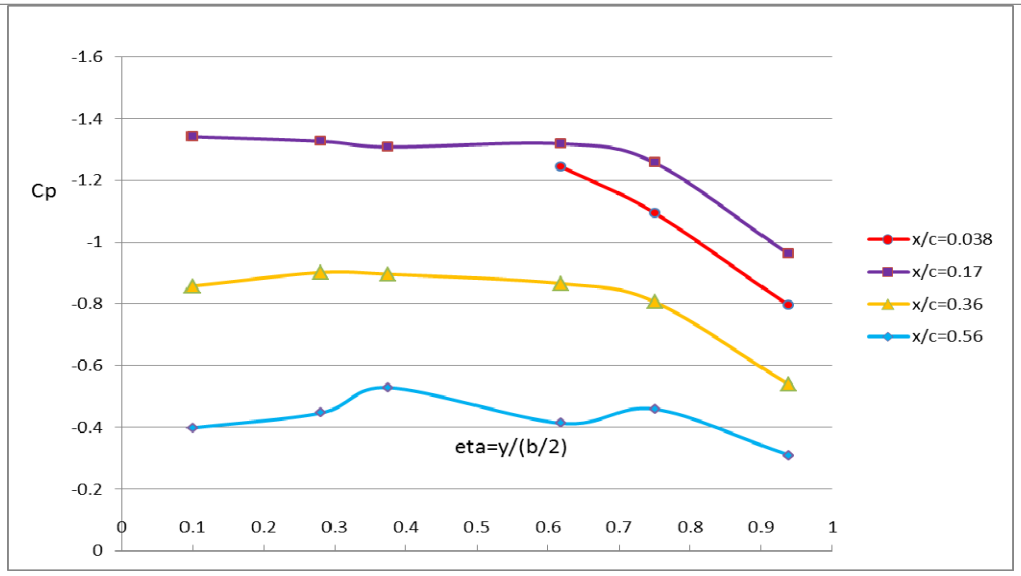
x/c=0.17
x/c=0.36
x/c=0.56

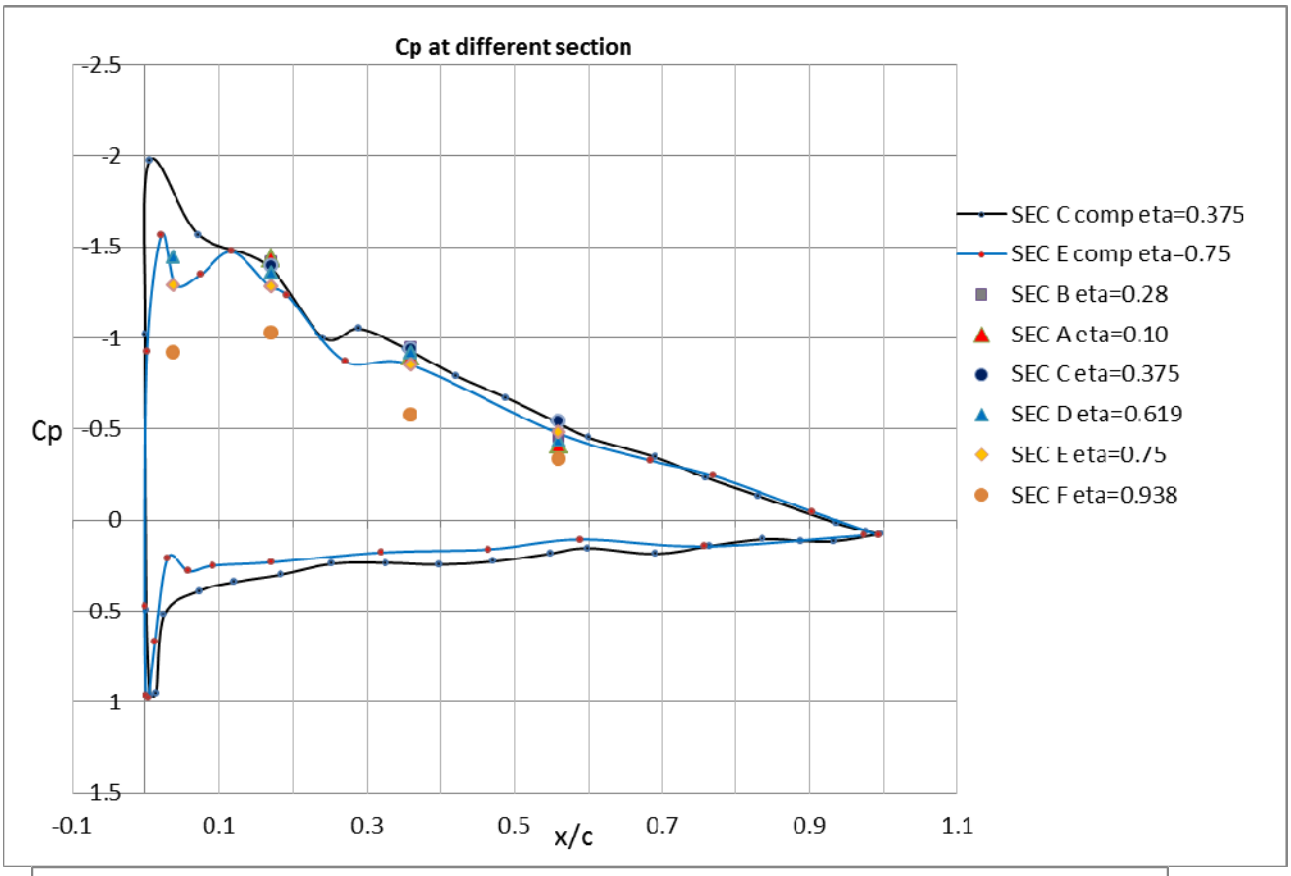
alpha_c=7.06°

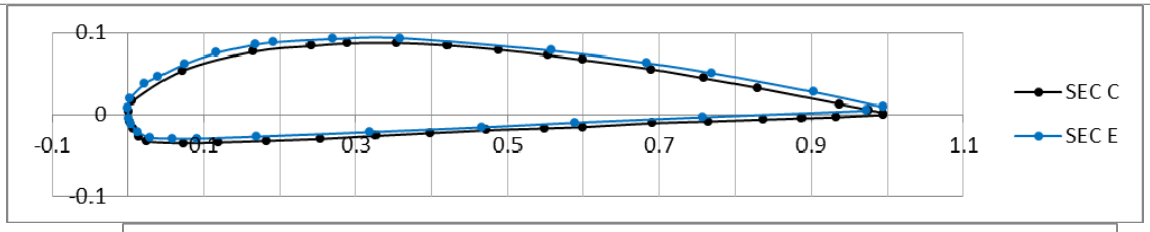

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

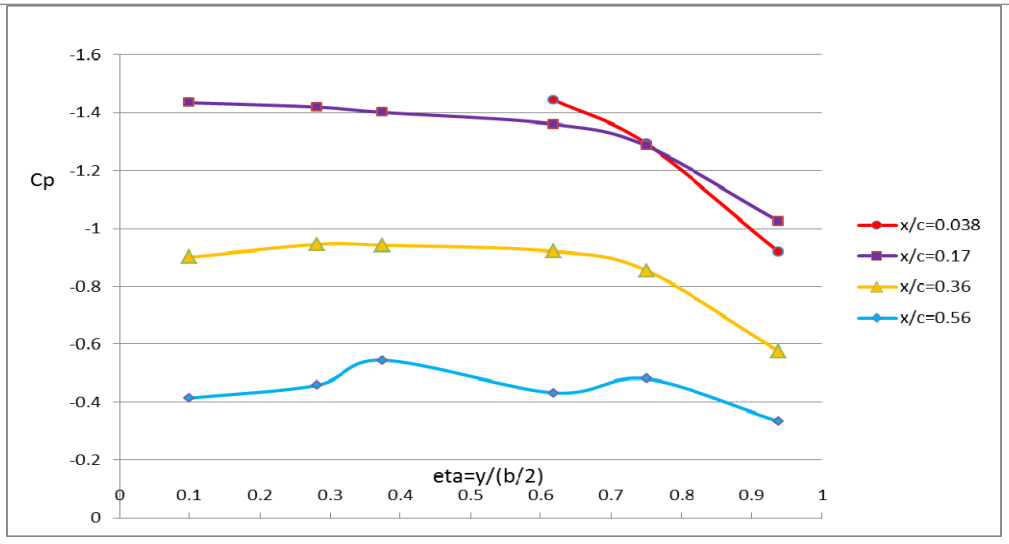

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

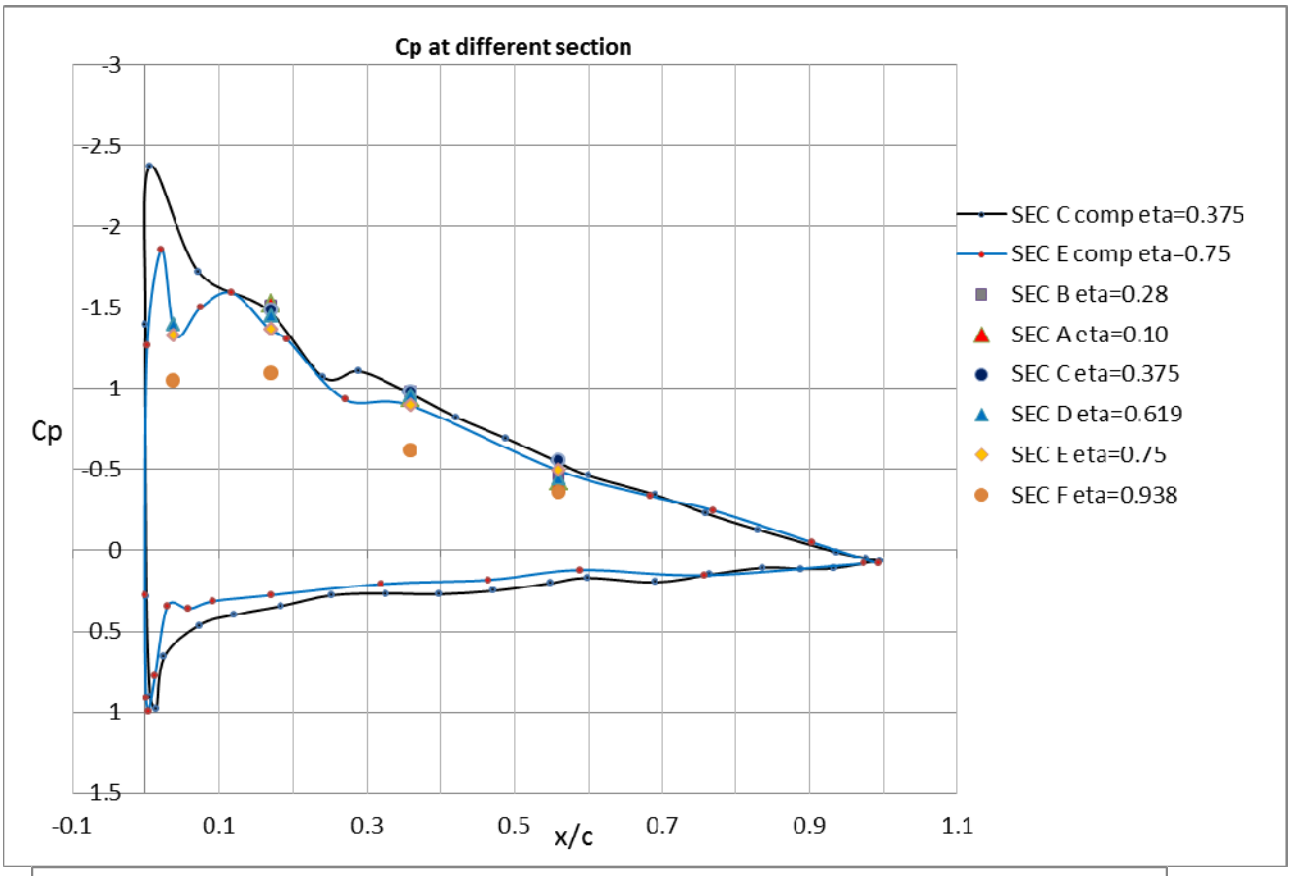
alpha_c=8.08°

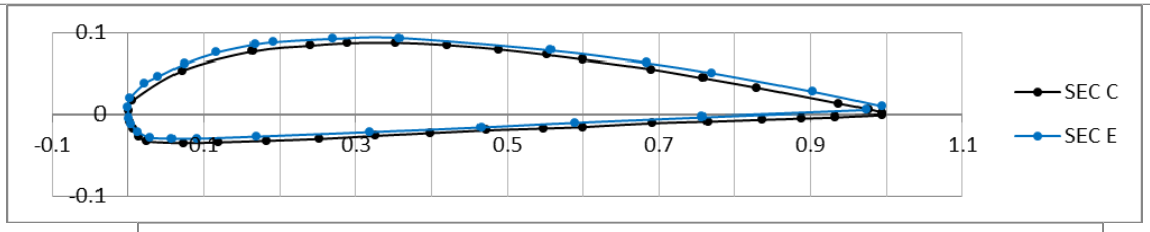

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta-0.75
SEC B eta=0.28
SEC A cta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

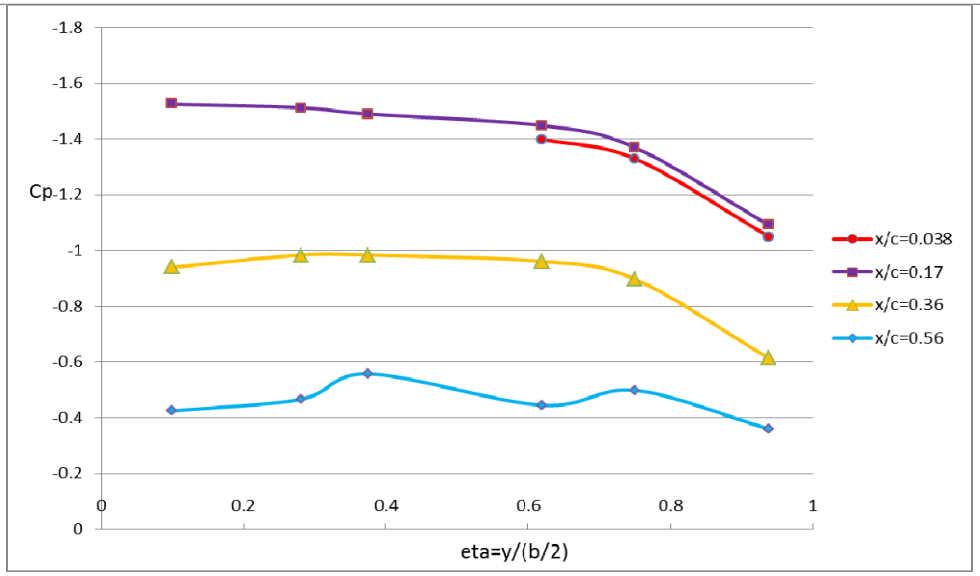

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

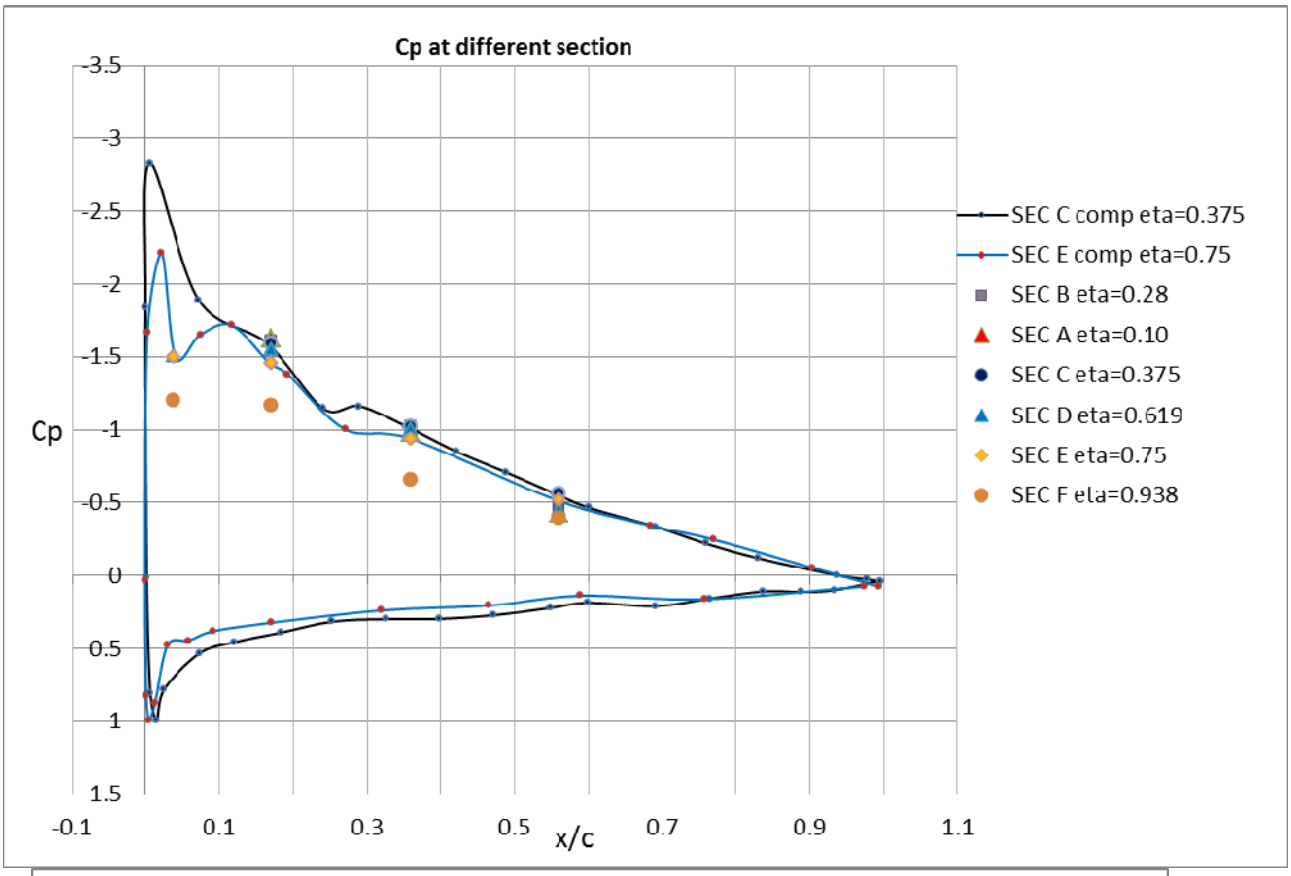
alpha_c=9.14°

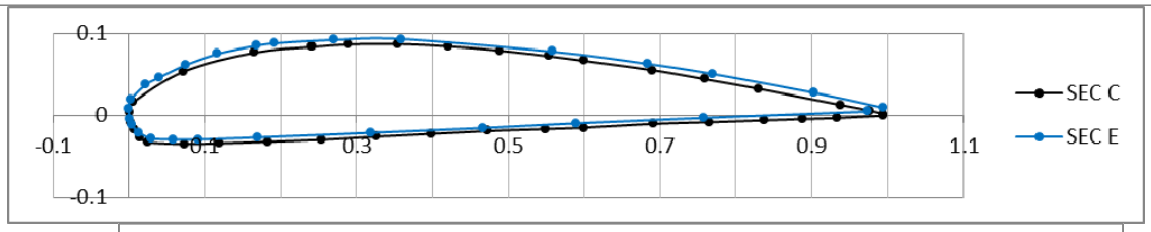

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta-0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

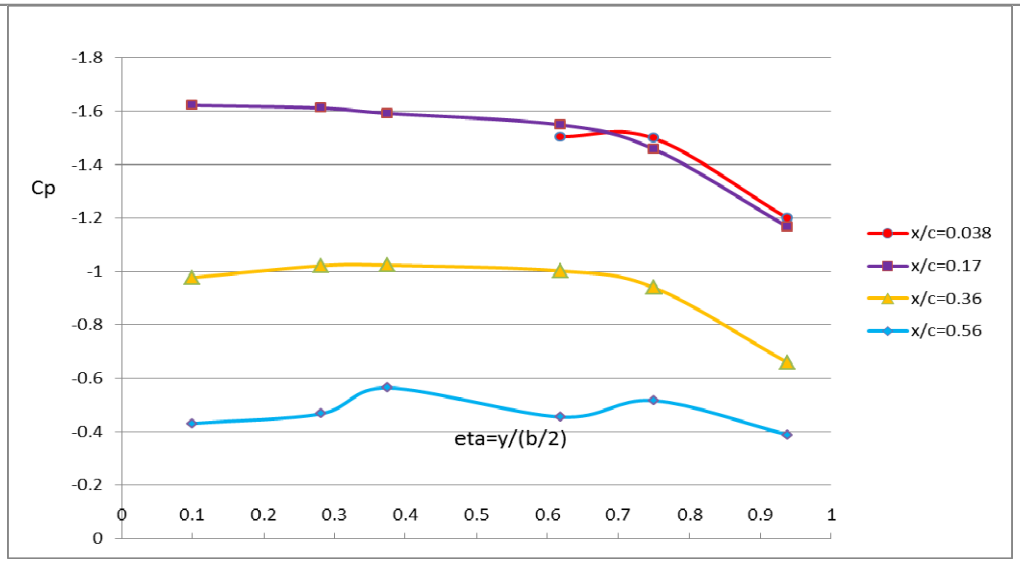

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

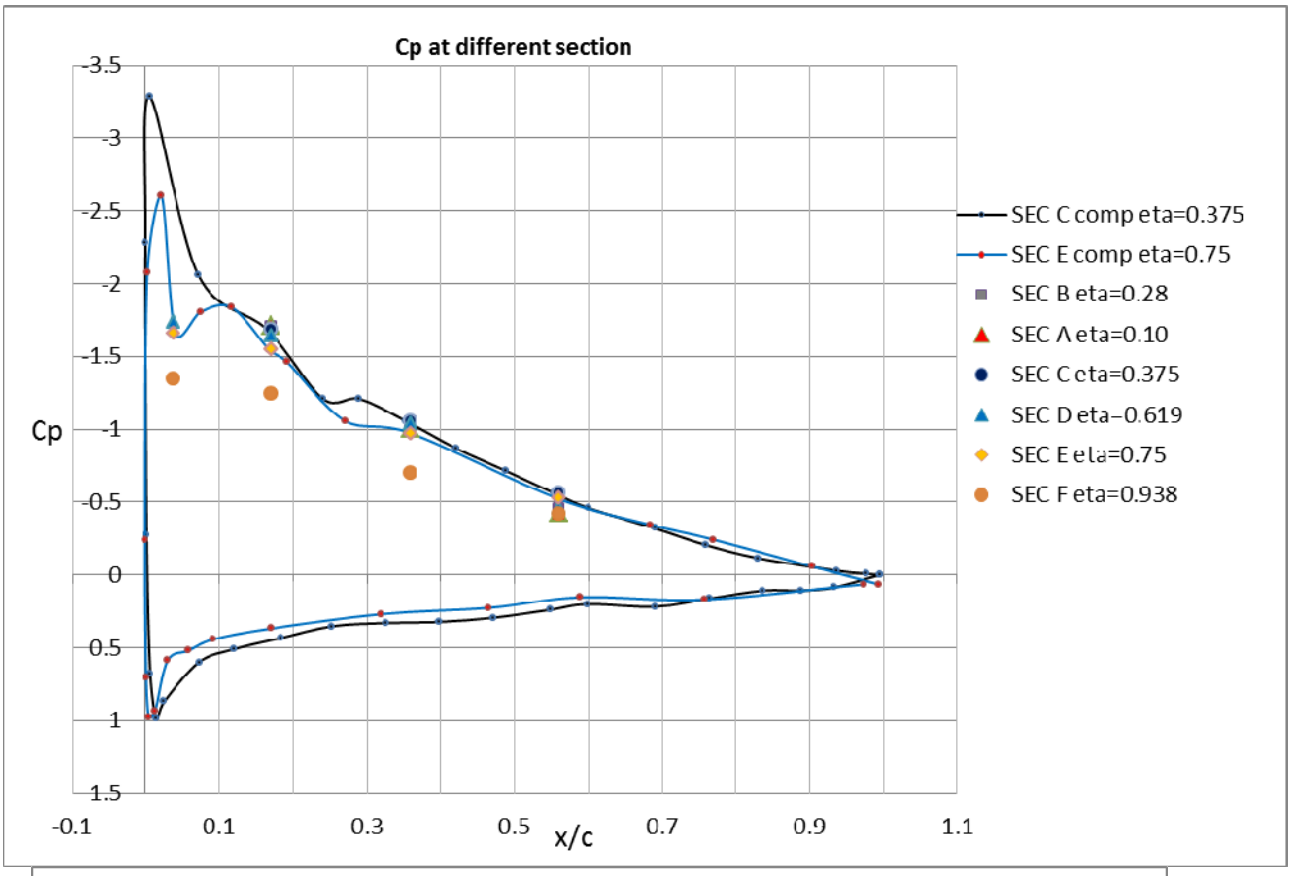
alpha_c=10.30°

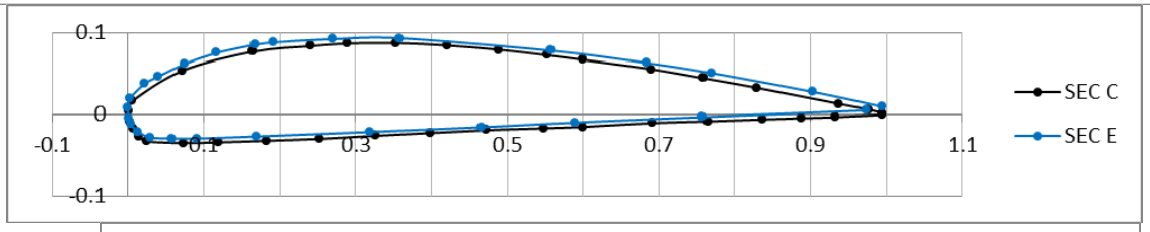

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

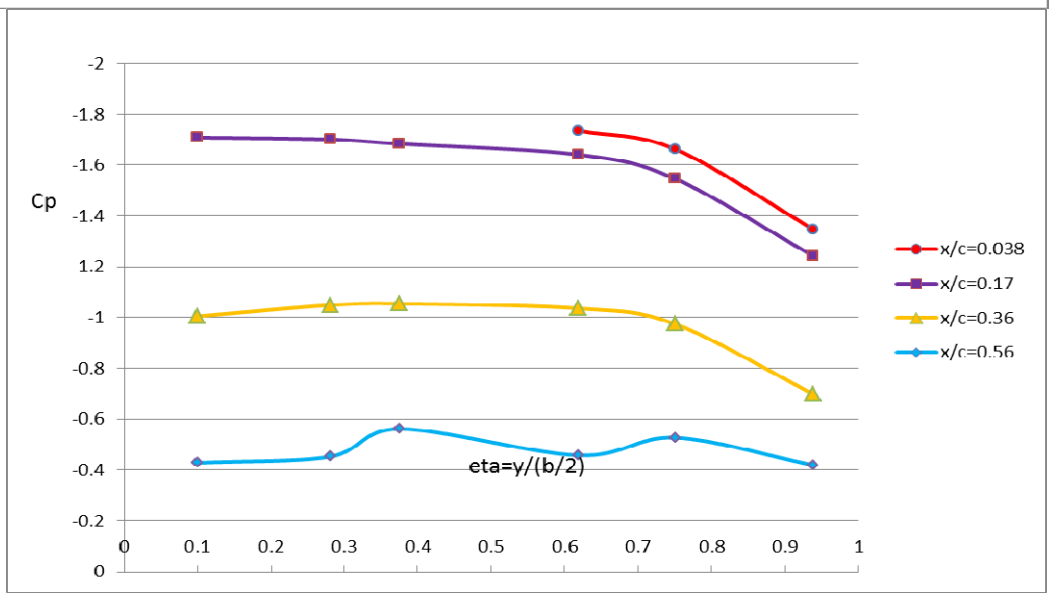

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

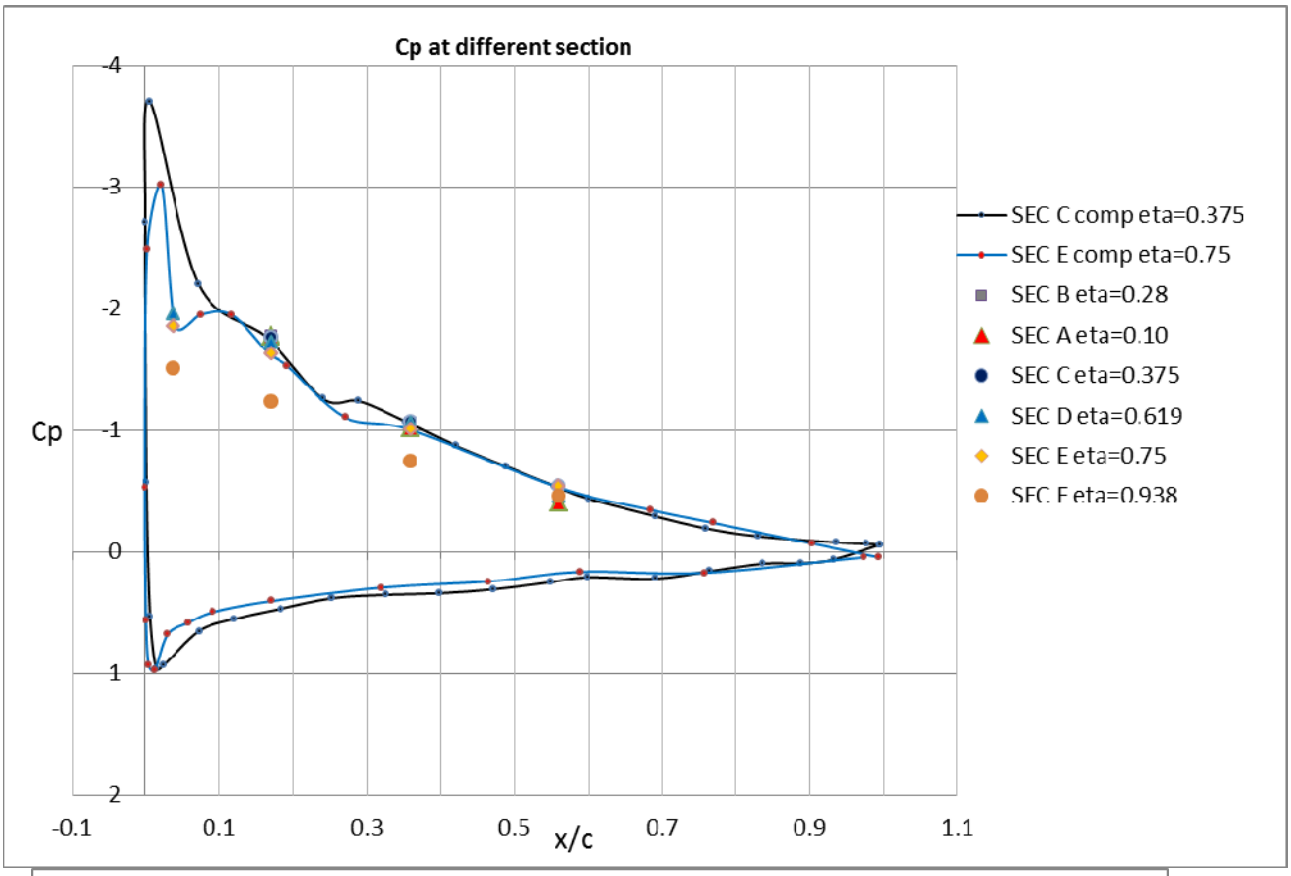
alpha_c=11.42°

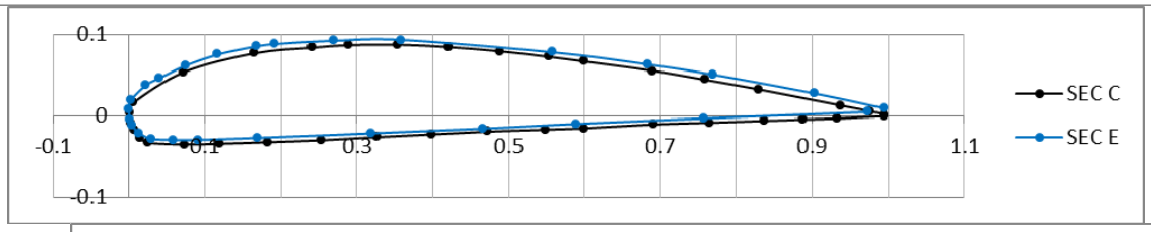

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

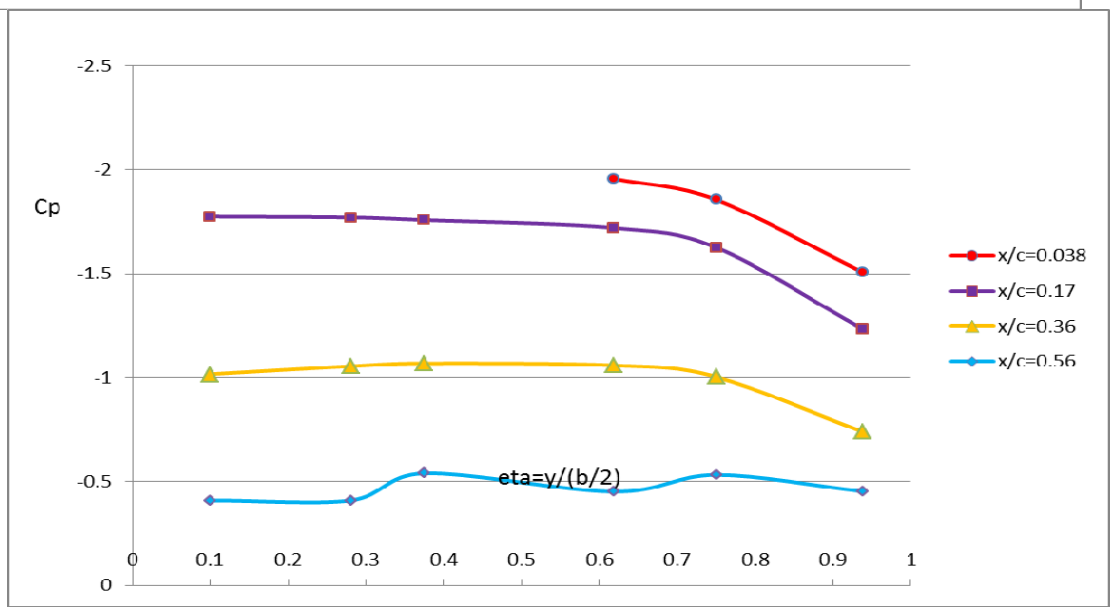

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

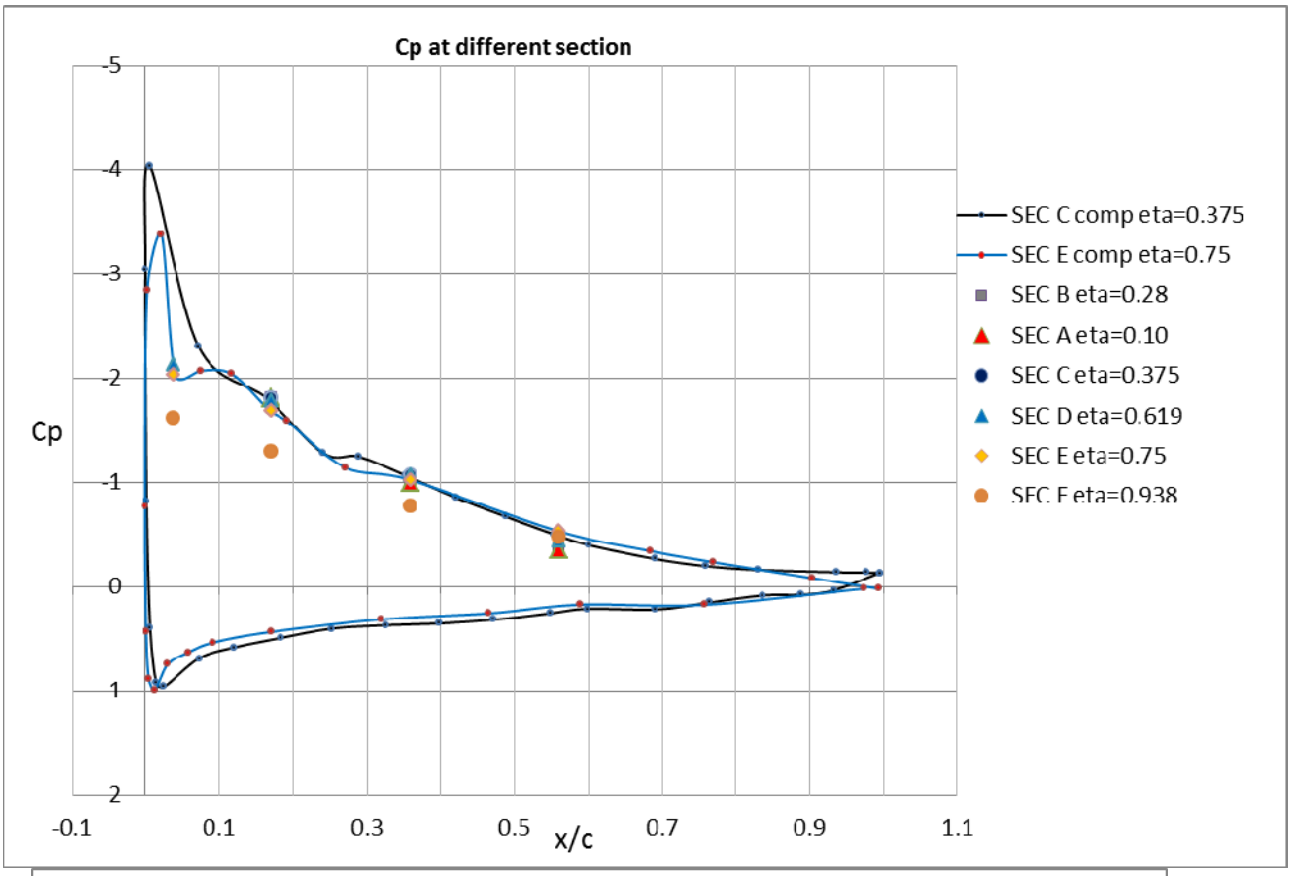
alpha_c=12.50°

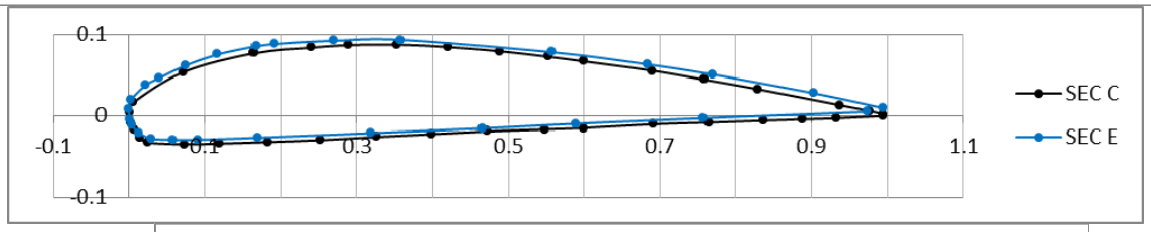

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

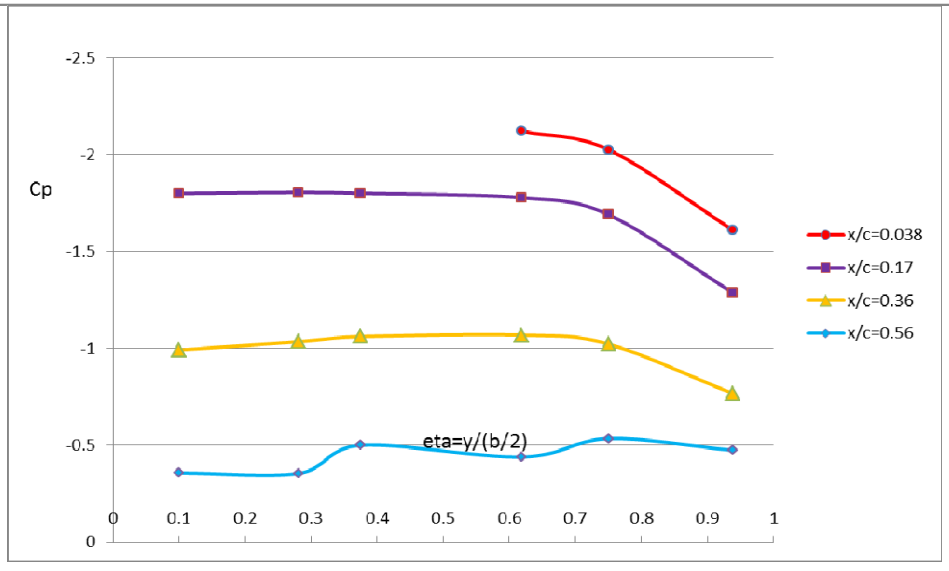

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

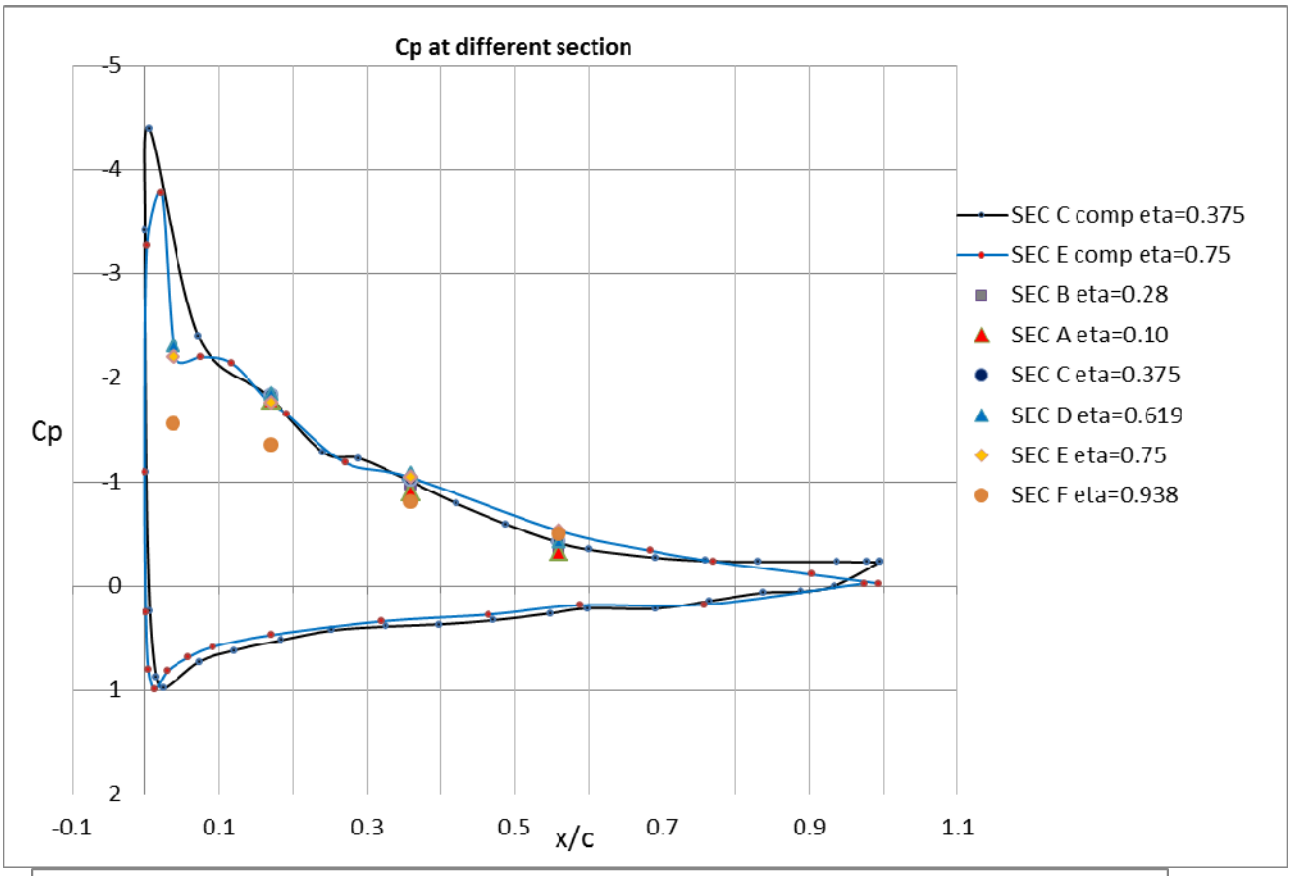
alpha_c=13.43°

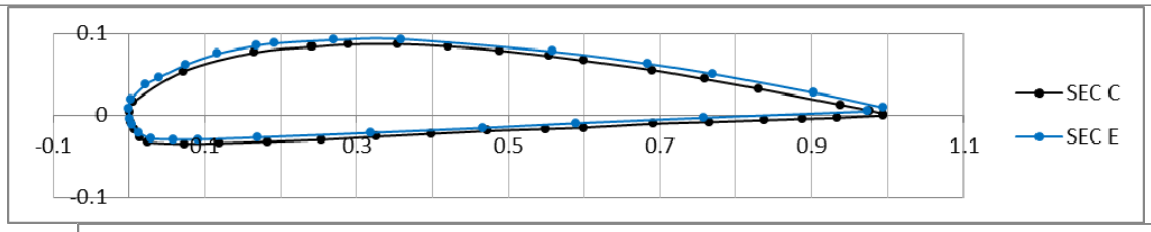

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

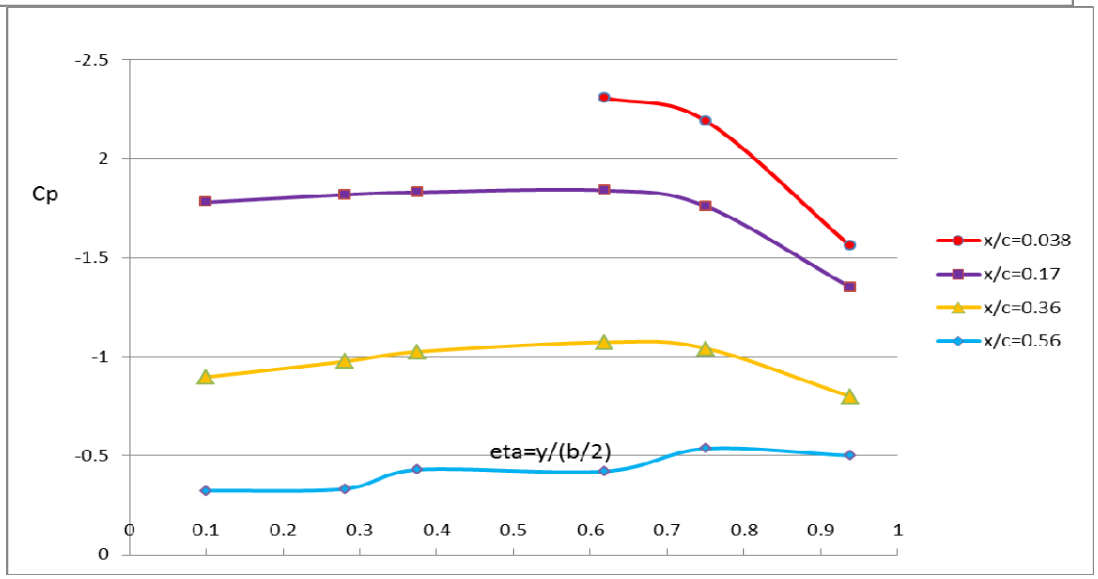

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

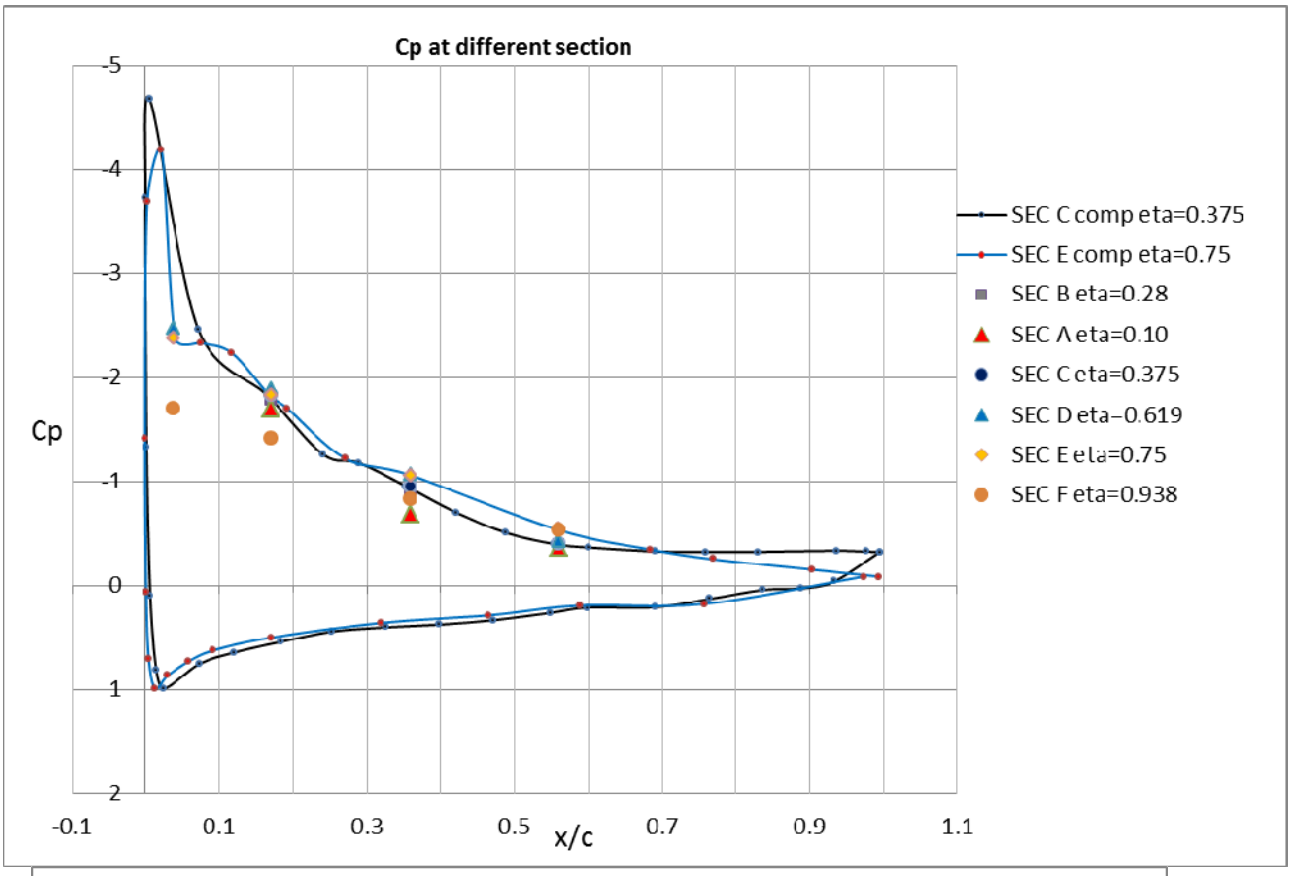
alpha_c=14.52°

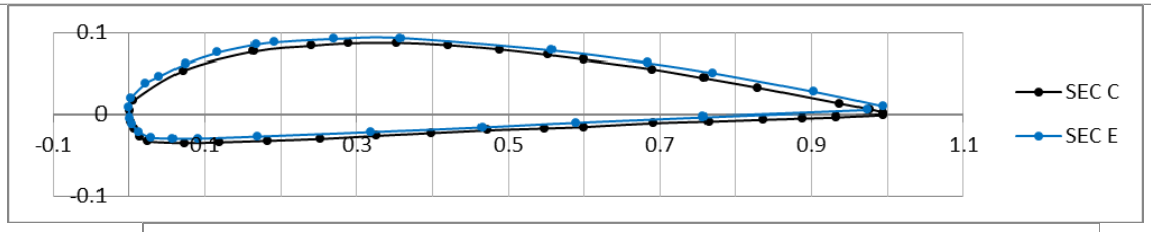

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

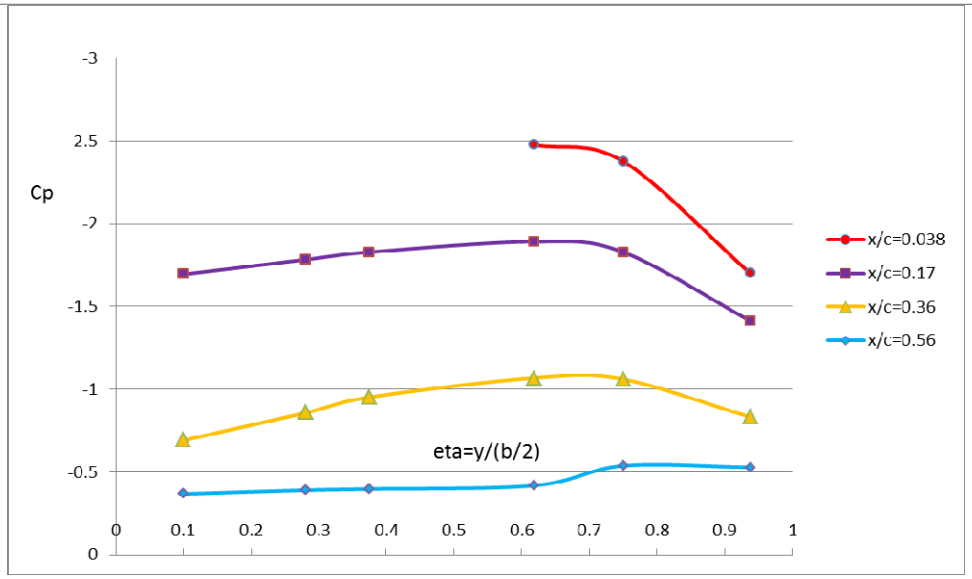

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

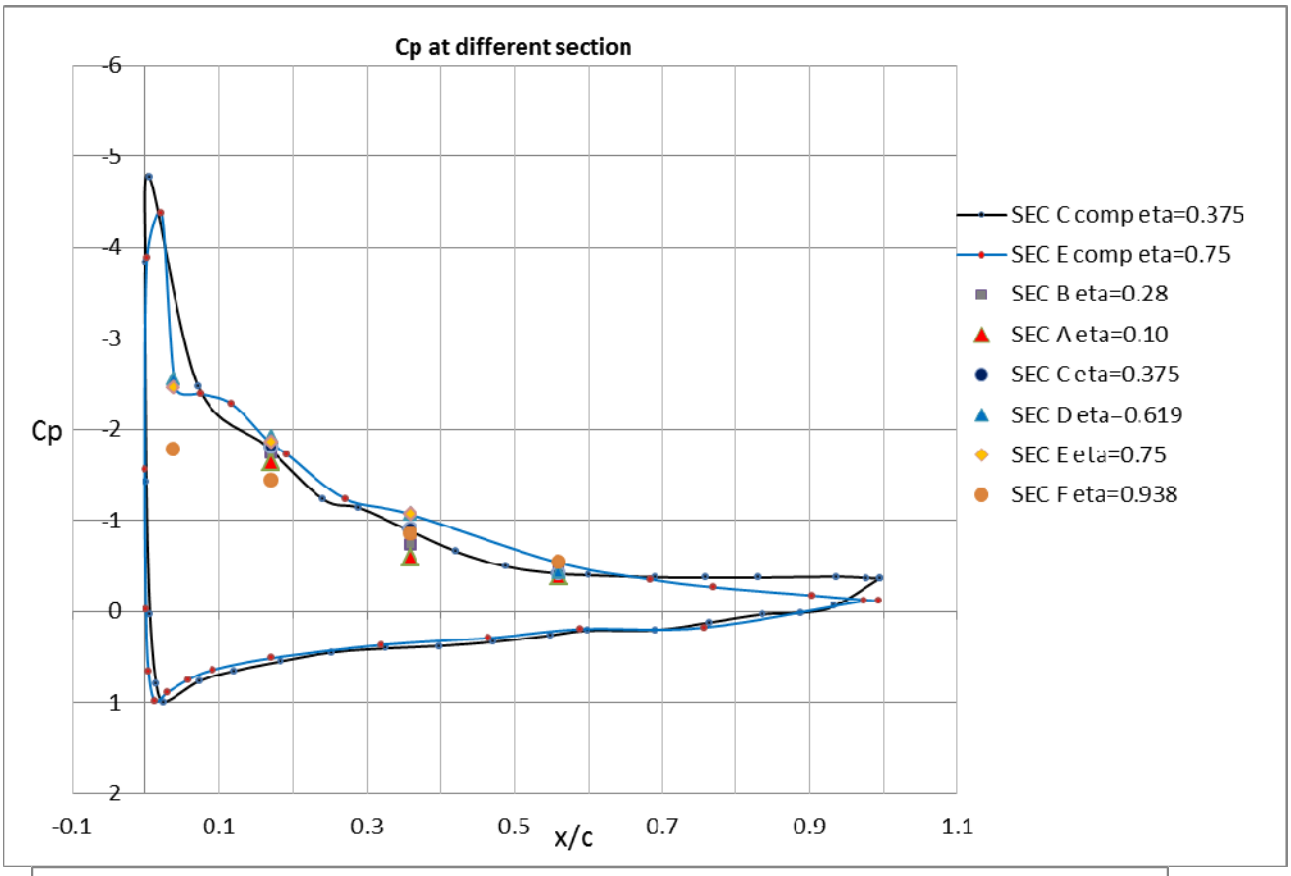
alpha_c=15.59°

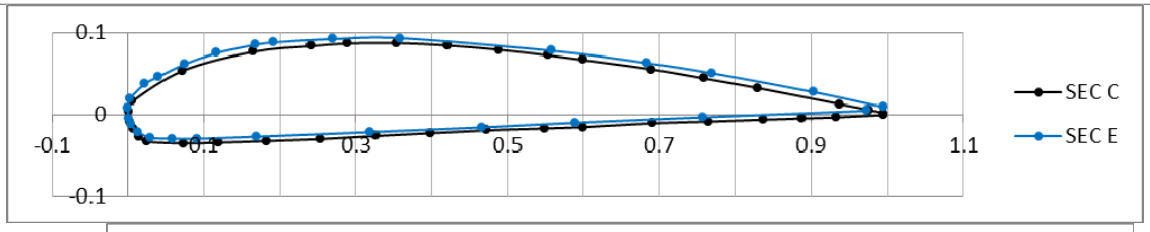

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

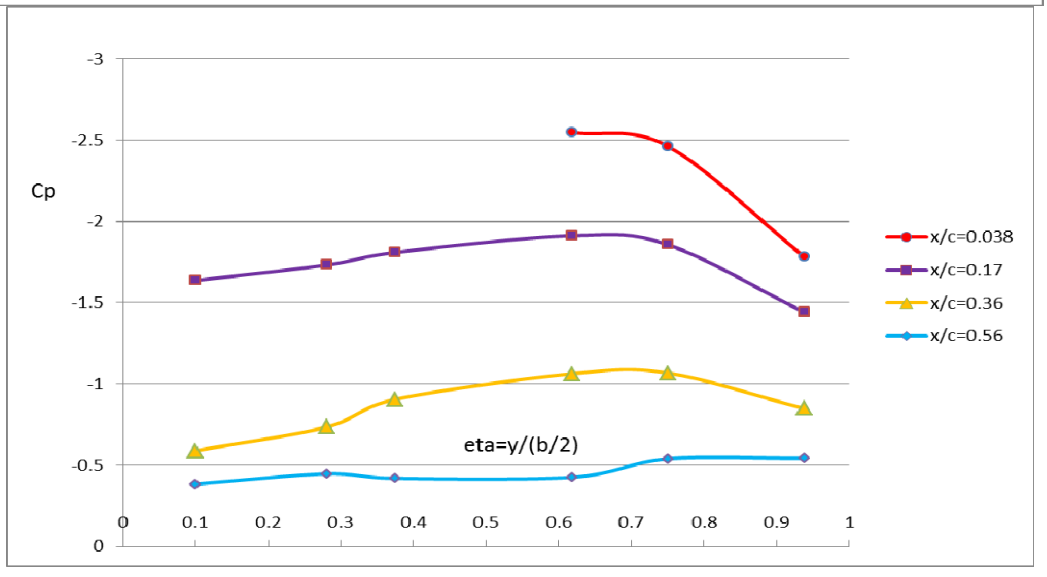

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

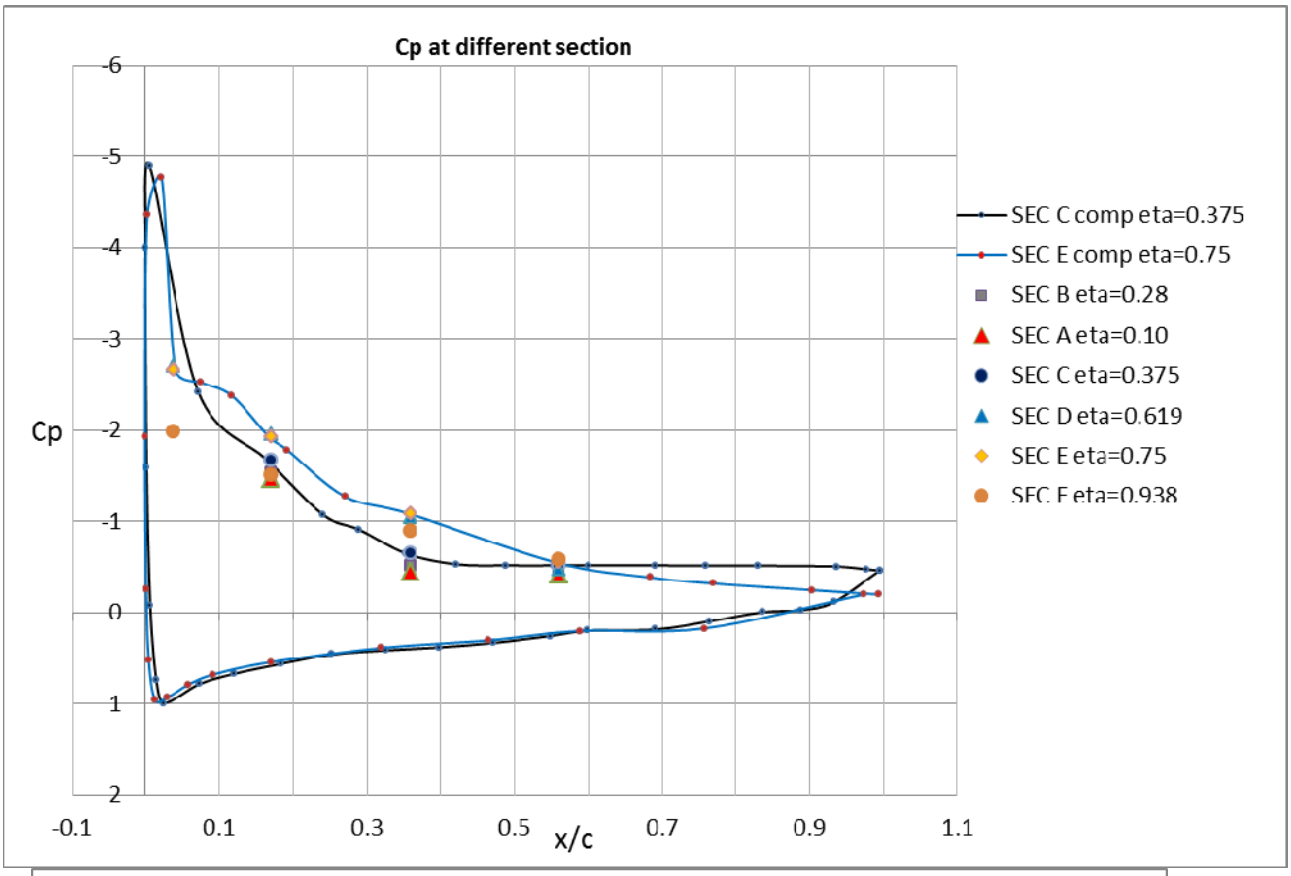
alpha_c=16.07°

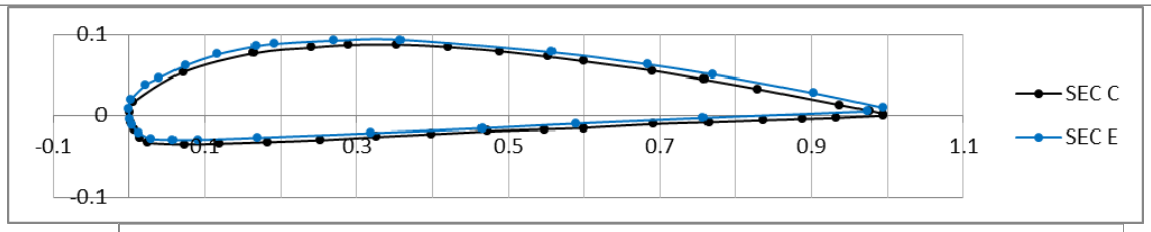

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

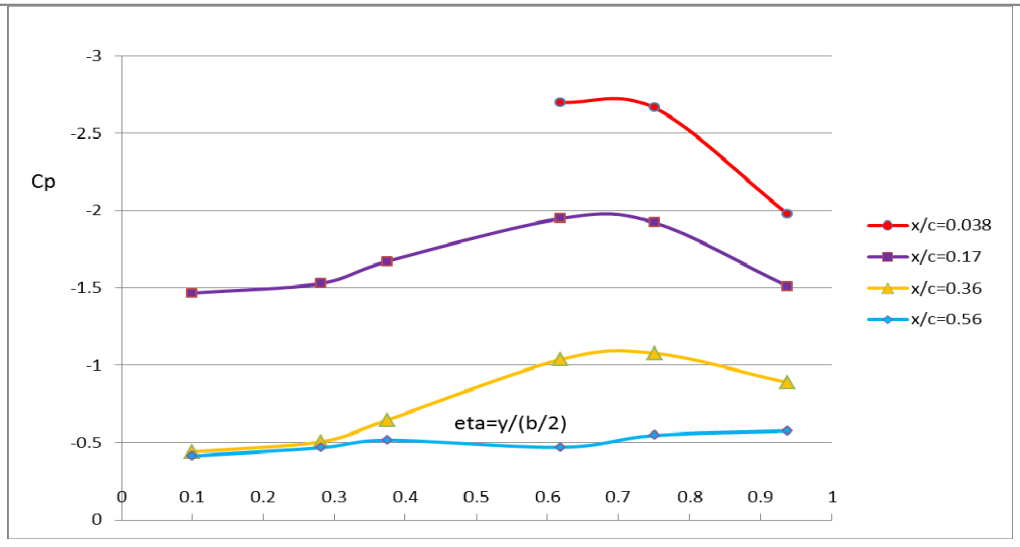

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

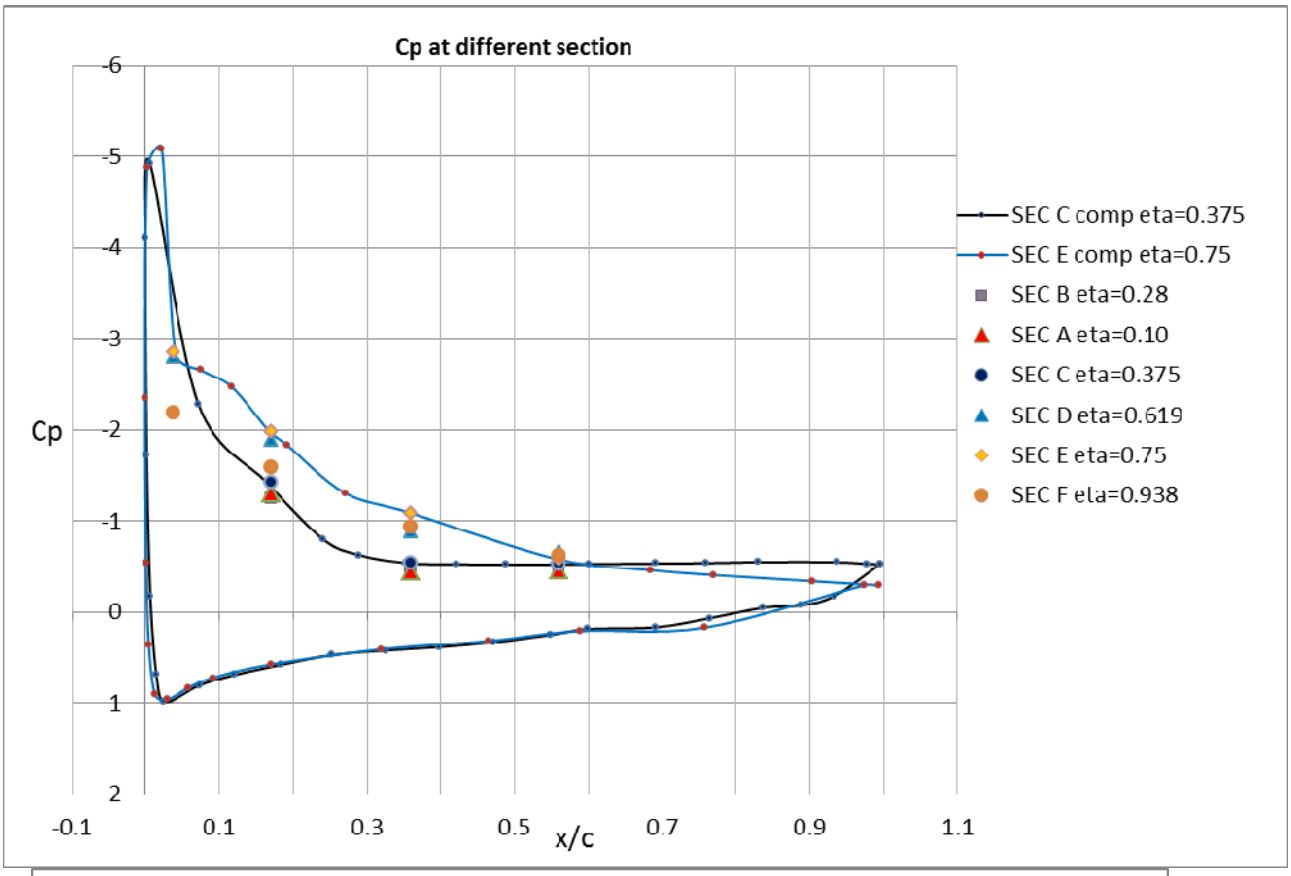
alpha_c=17.24°

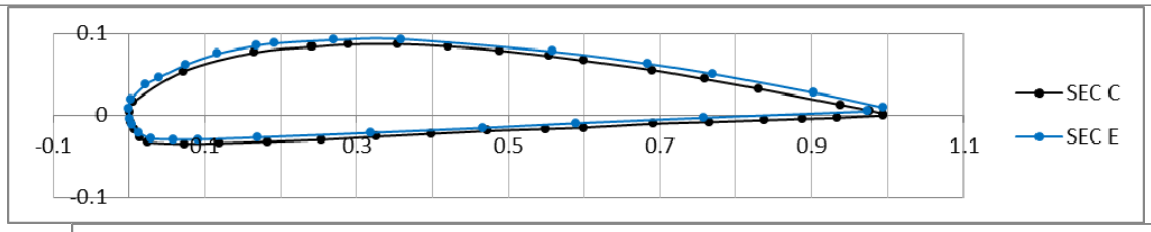

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

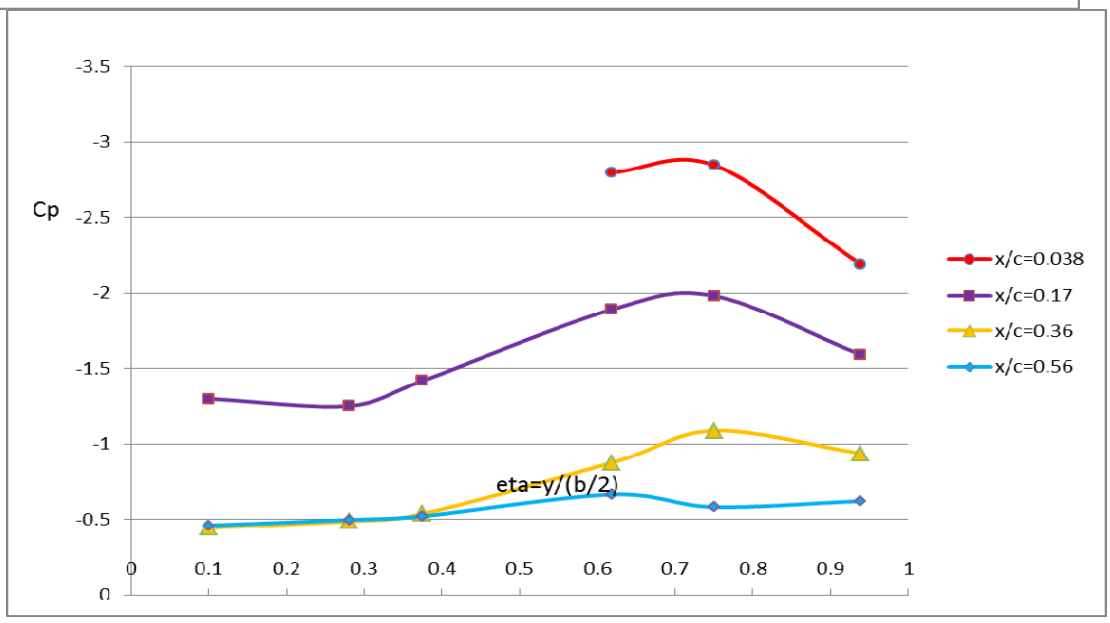

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

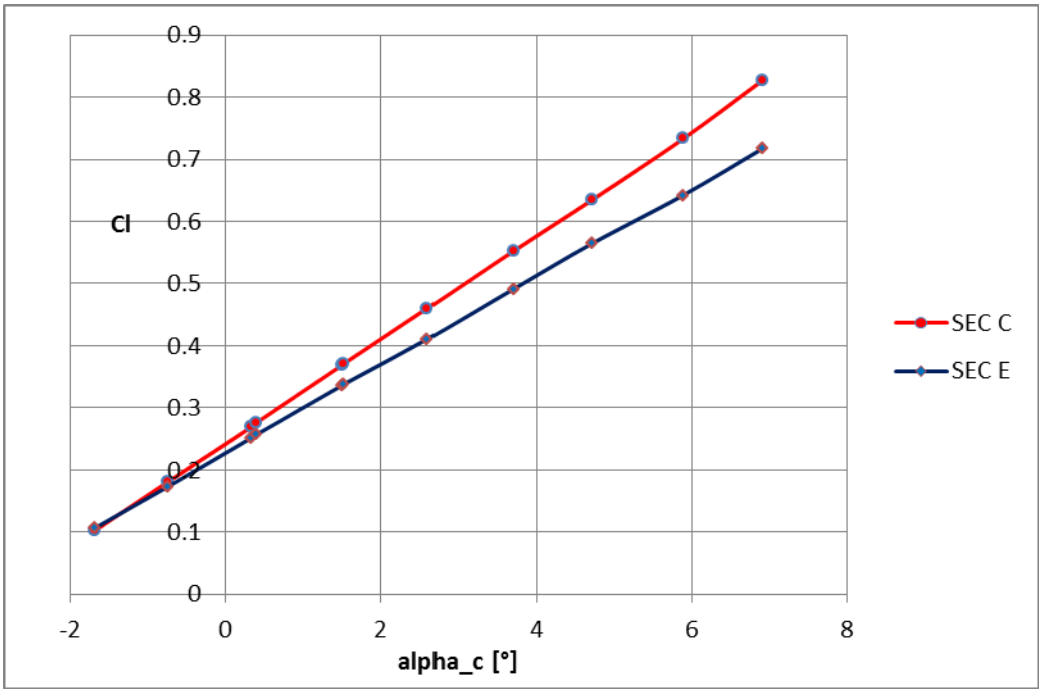
alpha_c=18.64°


Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

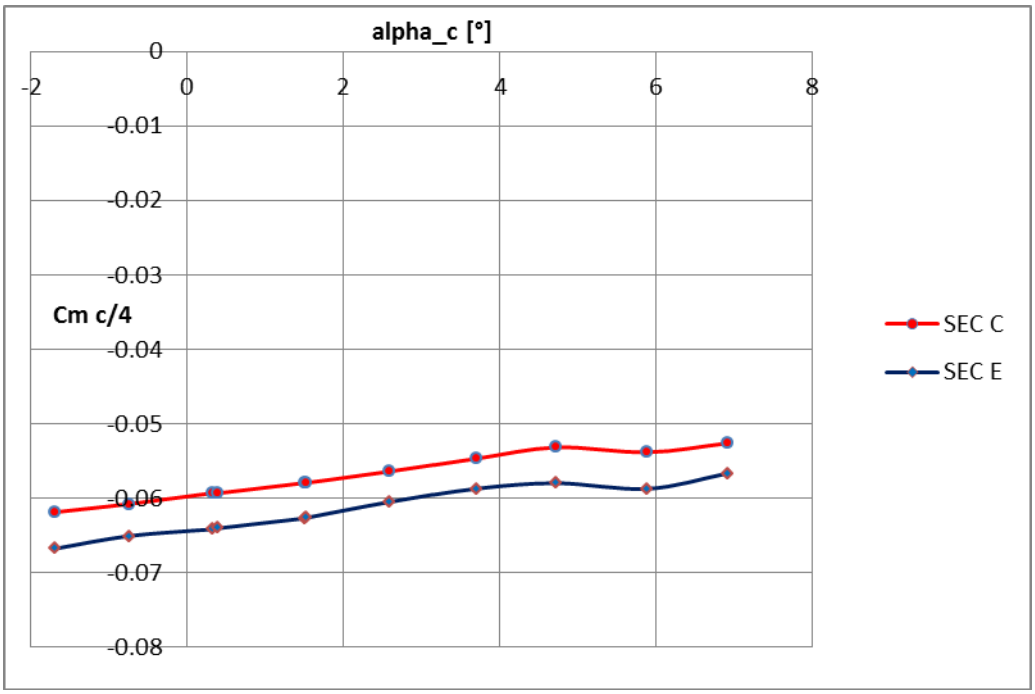

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

6.2.2 TEST L40: V=40 m/s, Clean Model (no transition imposed, laminar flow)

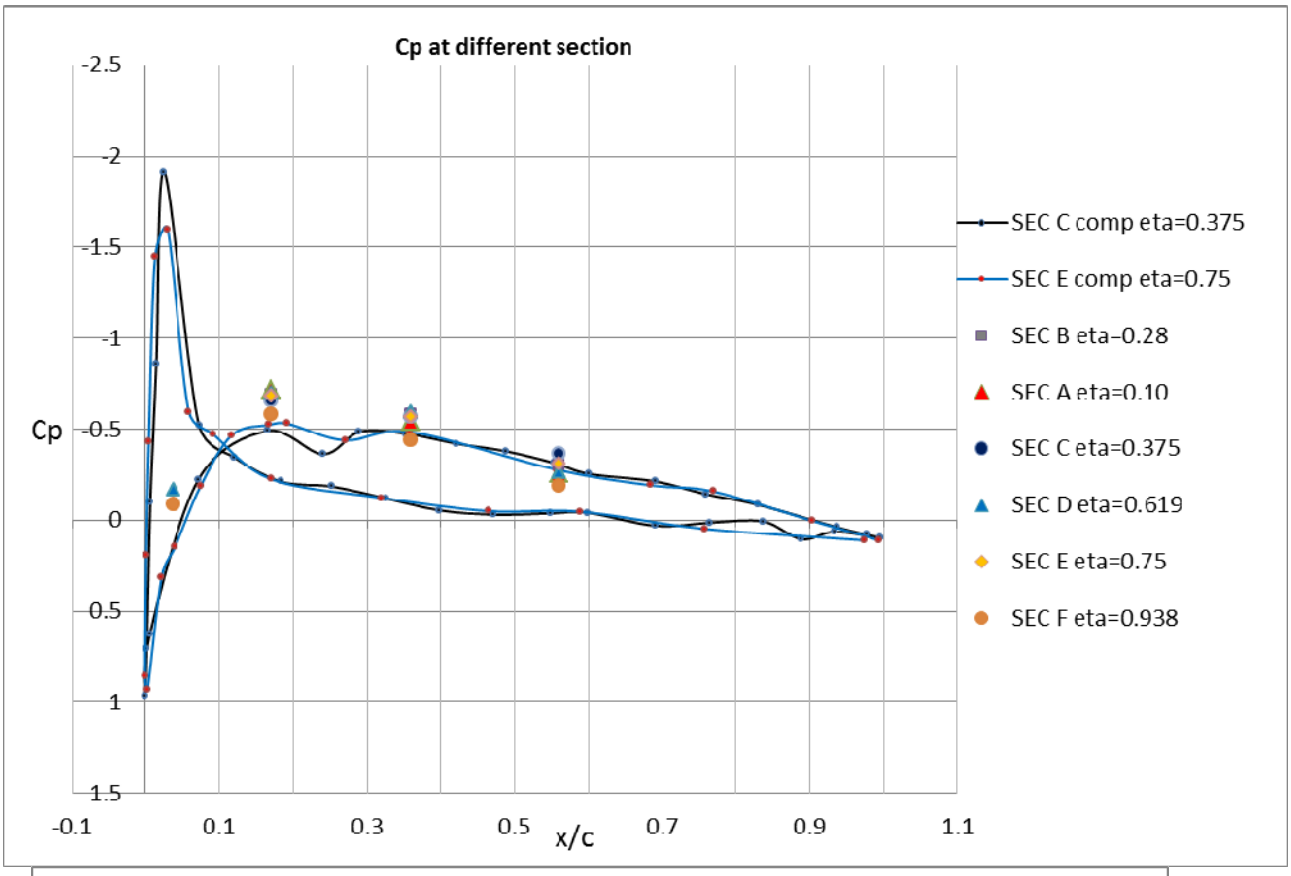


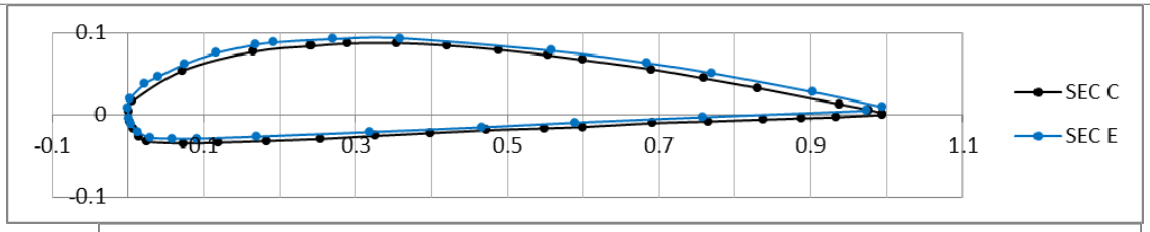
2-D Aerodynamic lift coefficient (corrected for solid block) Cl extracted from pressure distribution

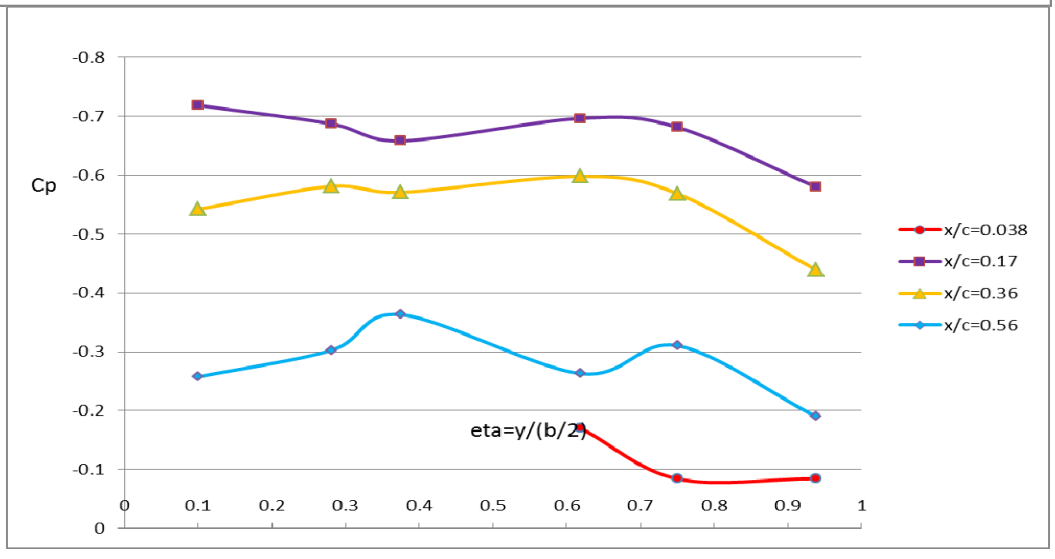


2-D Aerodynamic moment coefficient r.t.25% chord (corrected for solid block) extracted from pressure distribution

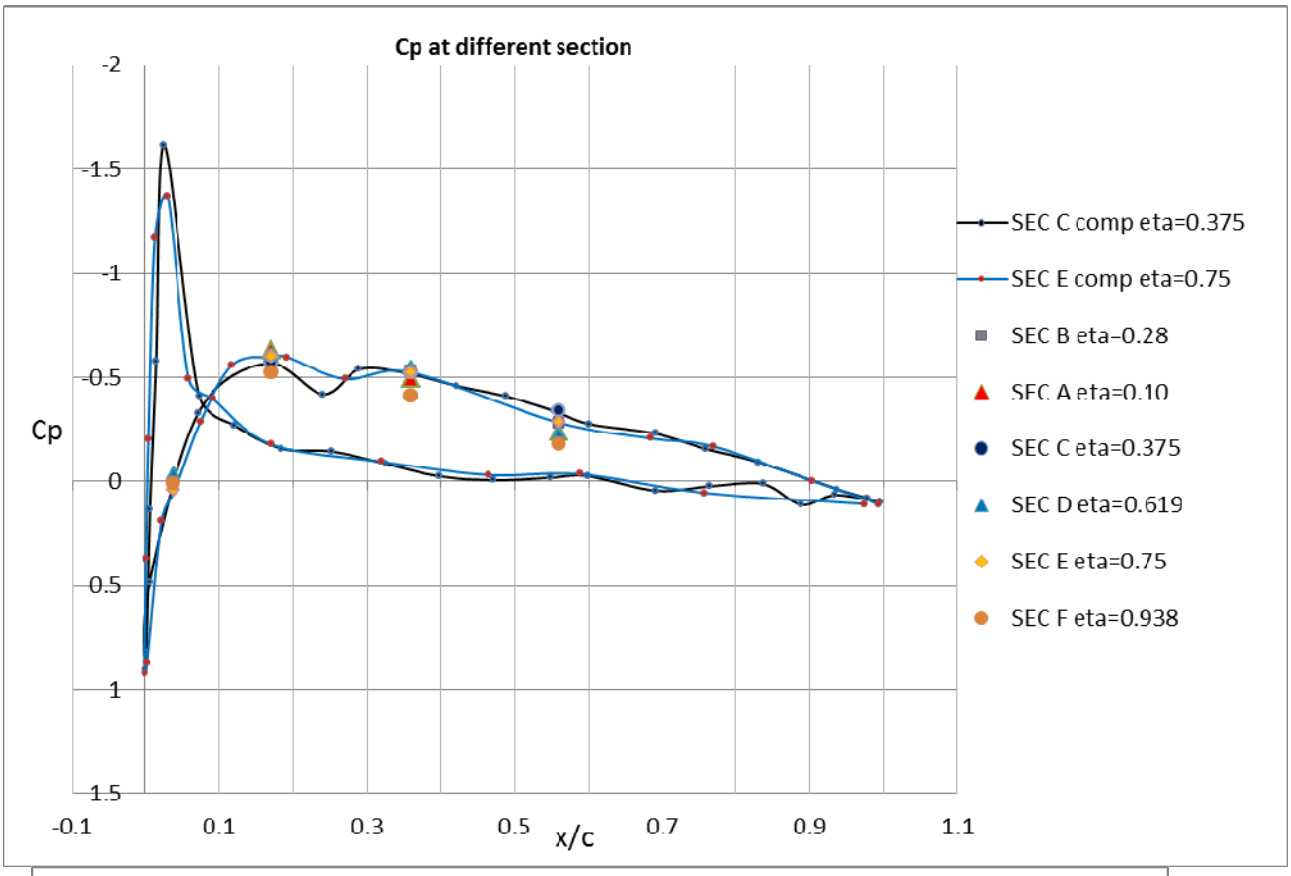
alpha_c=-1.69°

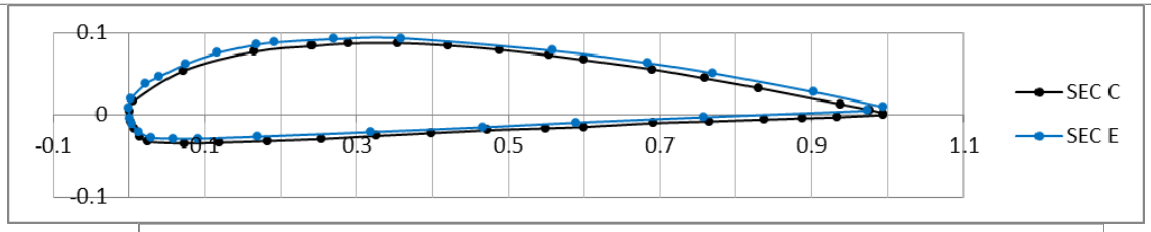

Cp at different section
Cp
x/c
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
-0.1
0.1
0.3
0.5
0.7
0.9
1.1
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

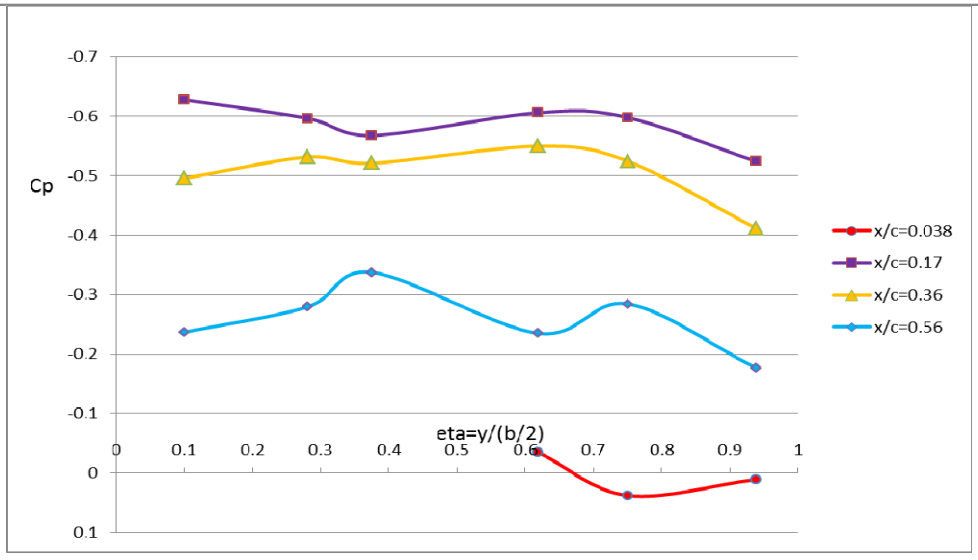

0.1
0
-0.1
-0.1
0.1
0.3
0.5
0.7
0.9
1.1
SEC C
SEC E


Cp
eta=y/(b/2)
-0.8
-0.7
-0.6
-0.5
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

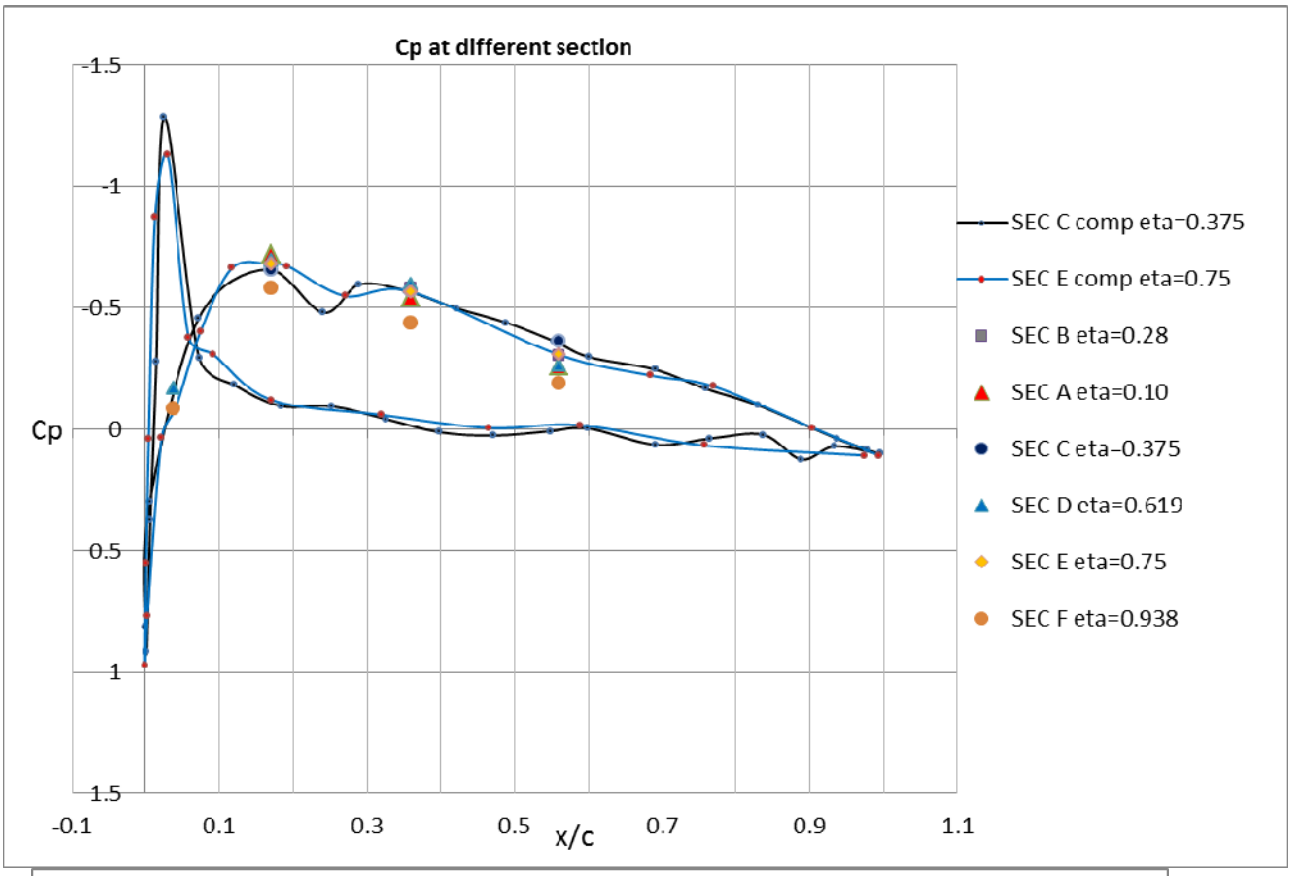
alpha_c= -0.75°

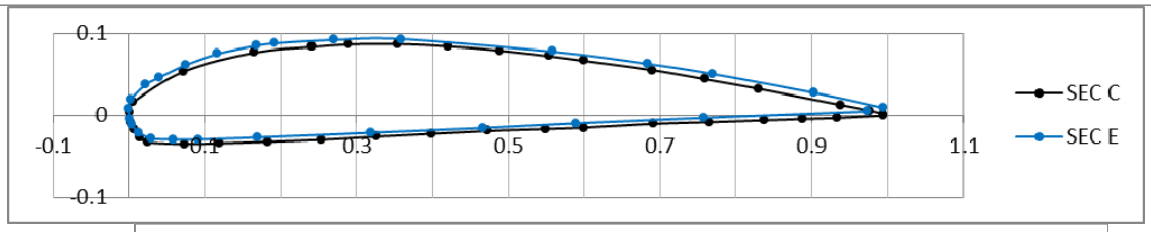

Cp at different section
Cp
x/c
-2
-1.5
-1
-0.5
0
0.5
1
1.5
-0.1
0.1
0.3
0.5
0.7
0.9
1.1
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

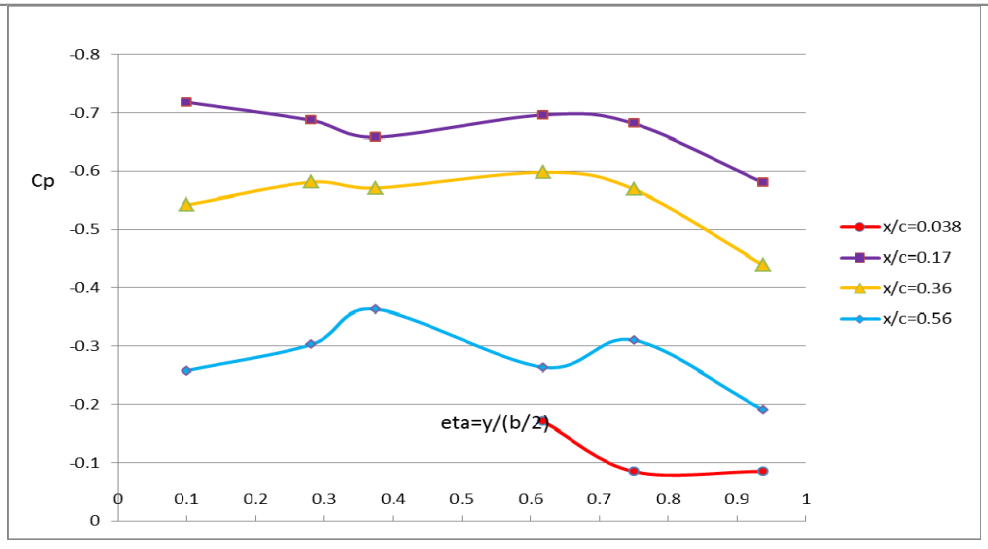

0.1
0
-0.1
-0.1
0.1
0.3
0.5
0.7
0.9
1.1
SEC C
SEC E


Cp
eta=y/(b/2)
-0.7
-0.6
-0.5
-0.4
-0.3
-0.2
-0.1
0
0.1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

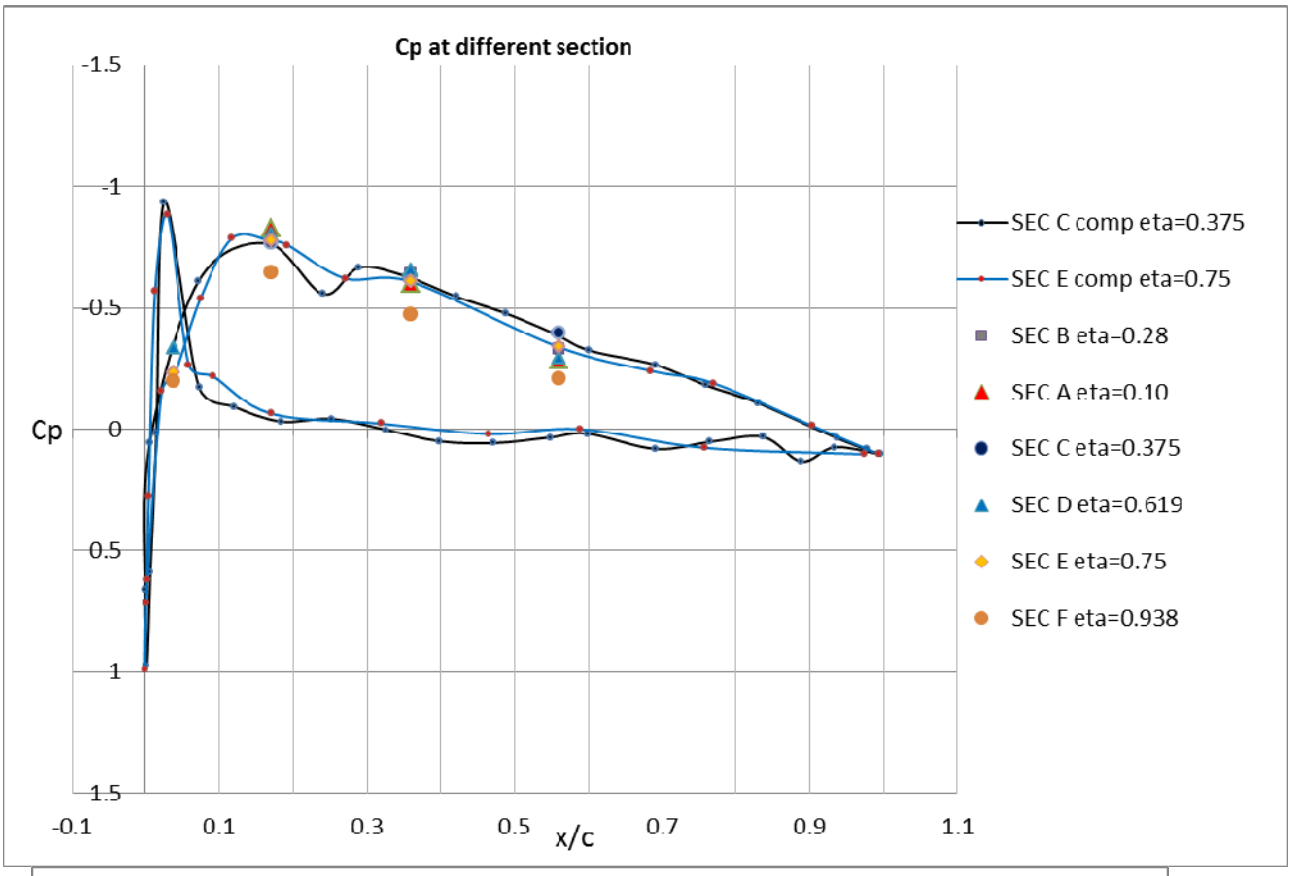
alpha_c= 0.33°

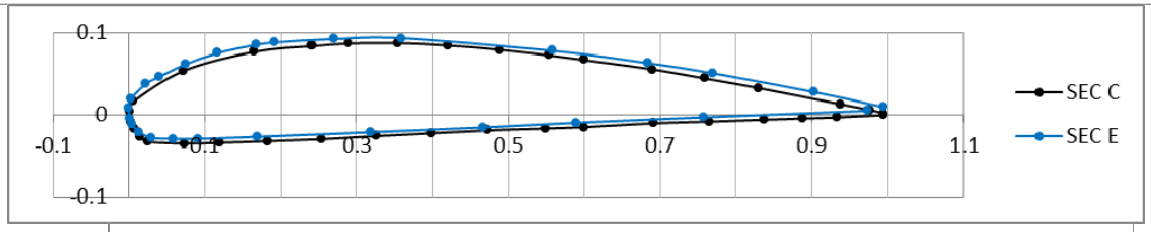

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

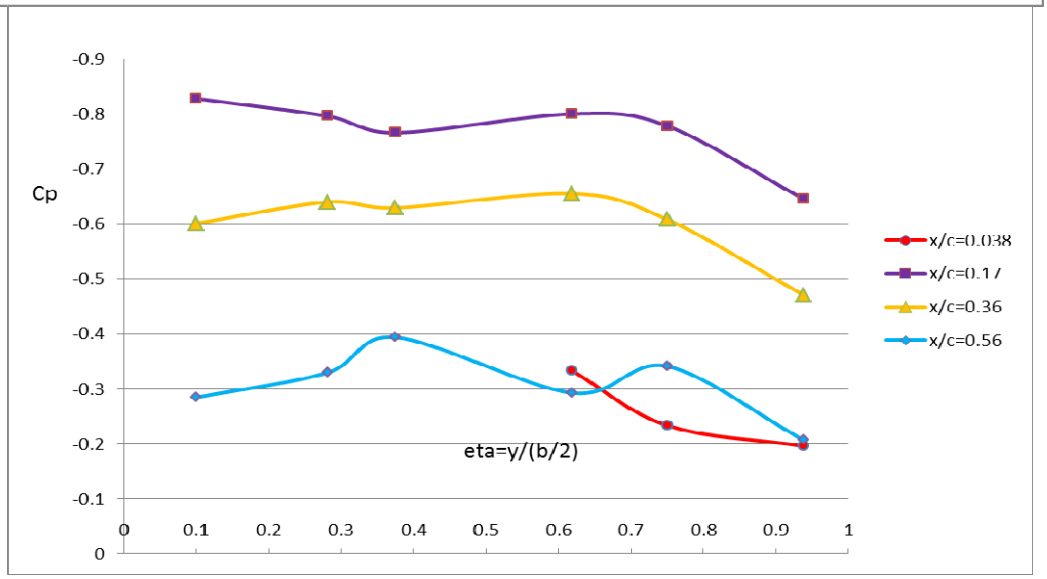

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

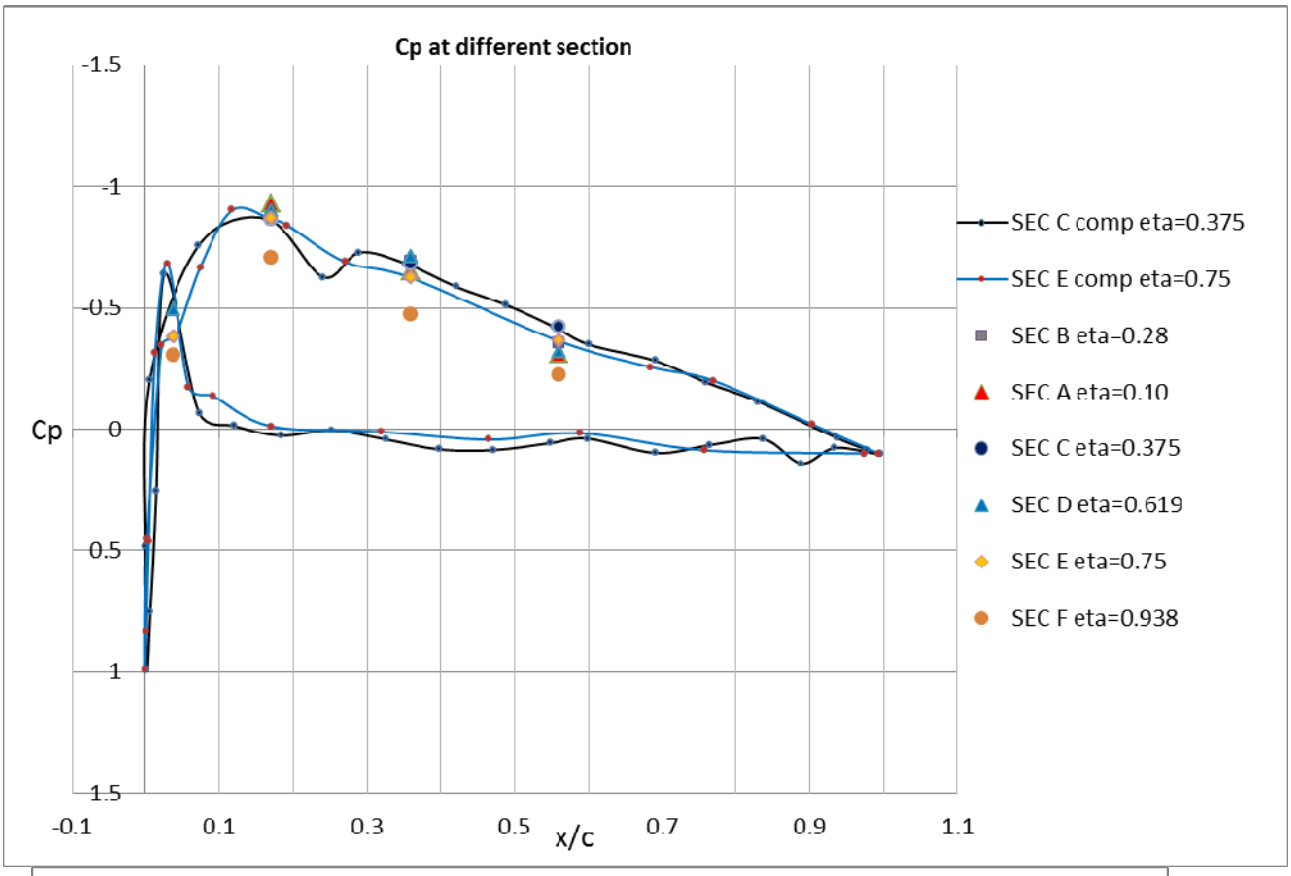
alpha_c= 1.51°

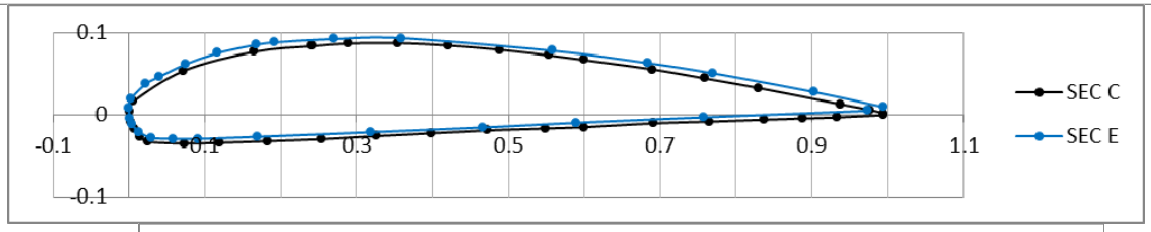

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

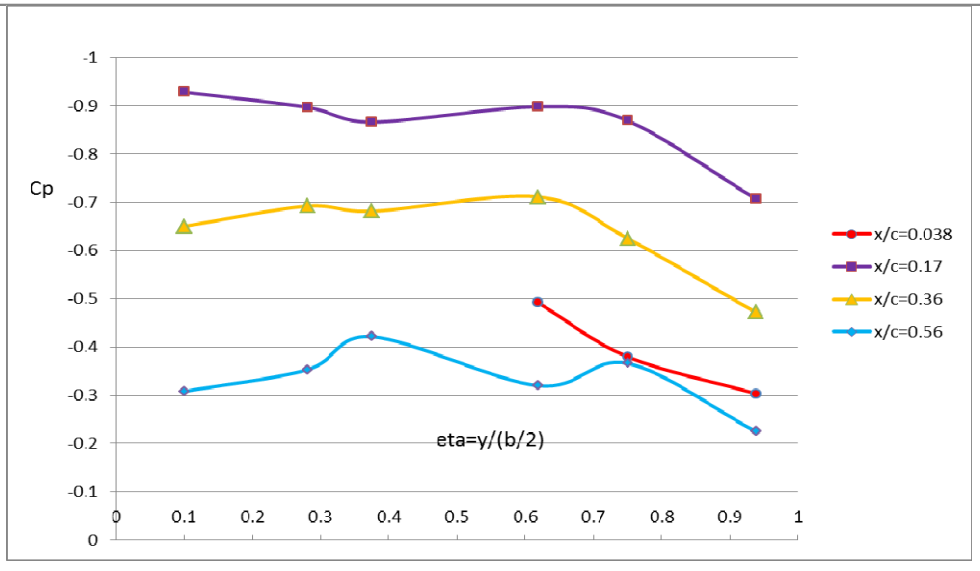

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

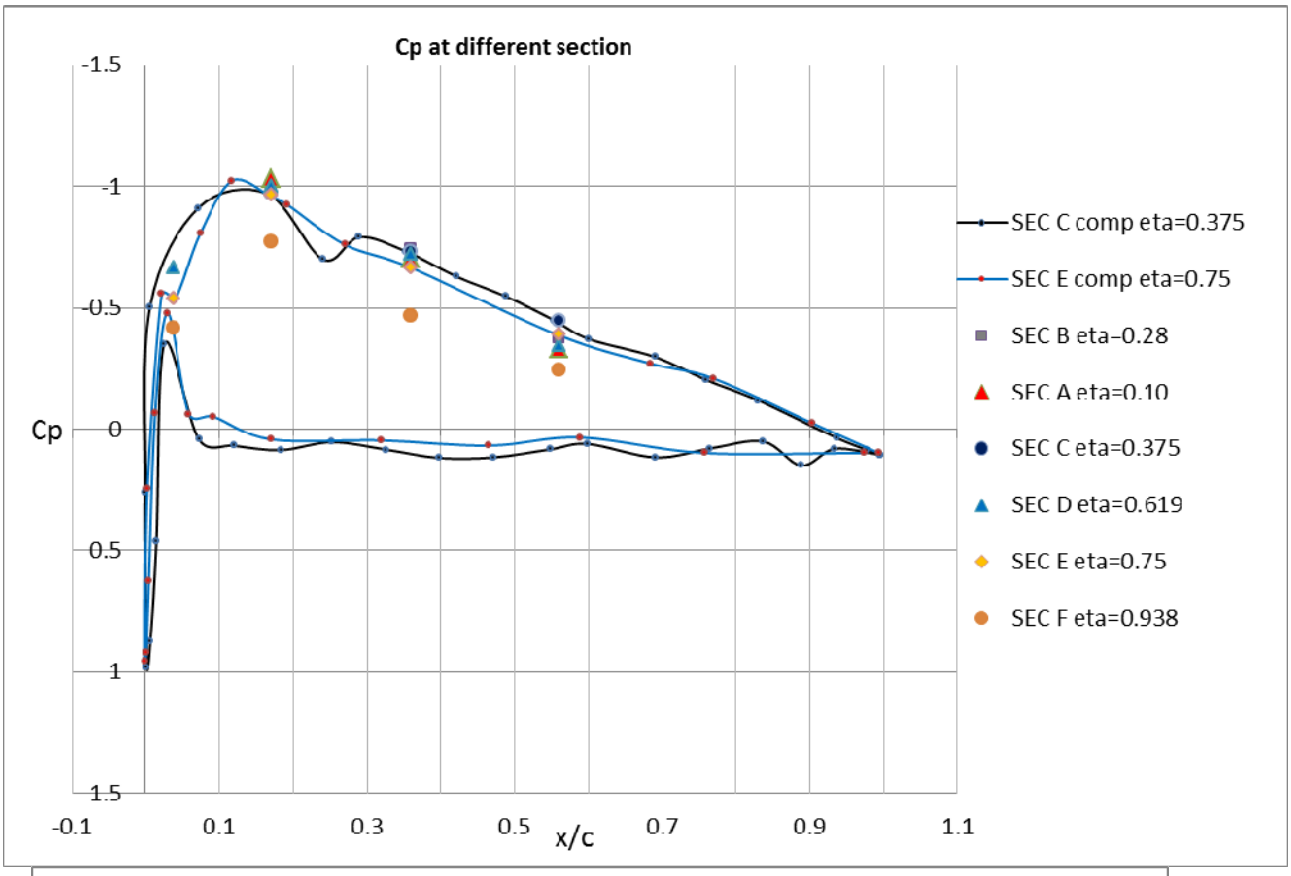
alpha_c= 2.59°

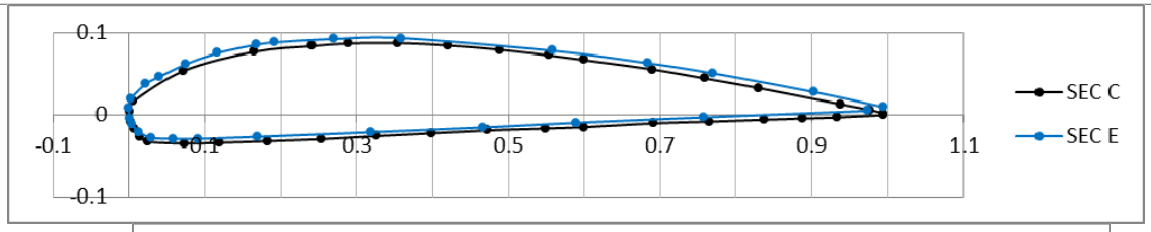

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

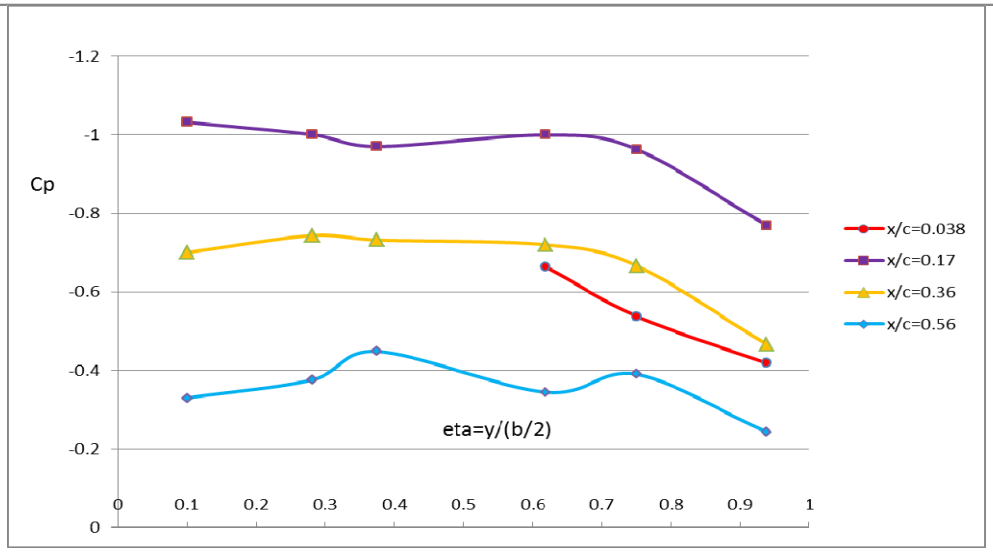

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

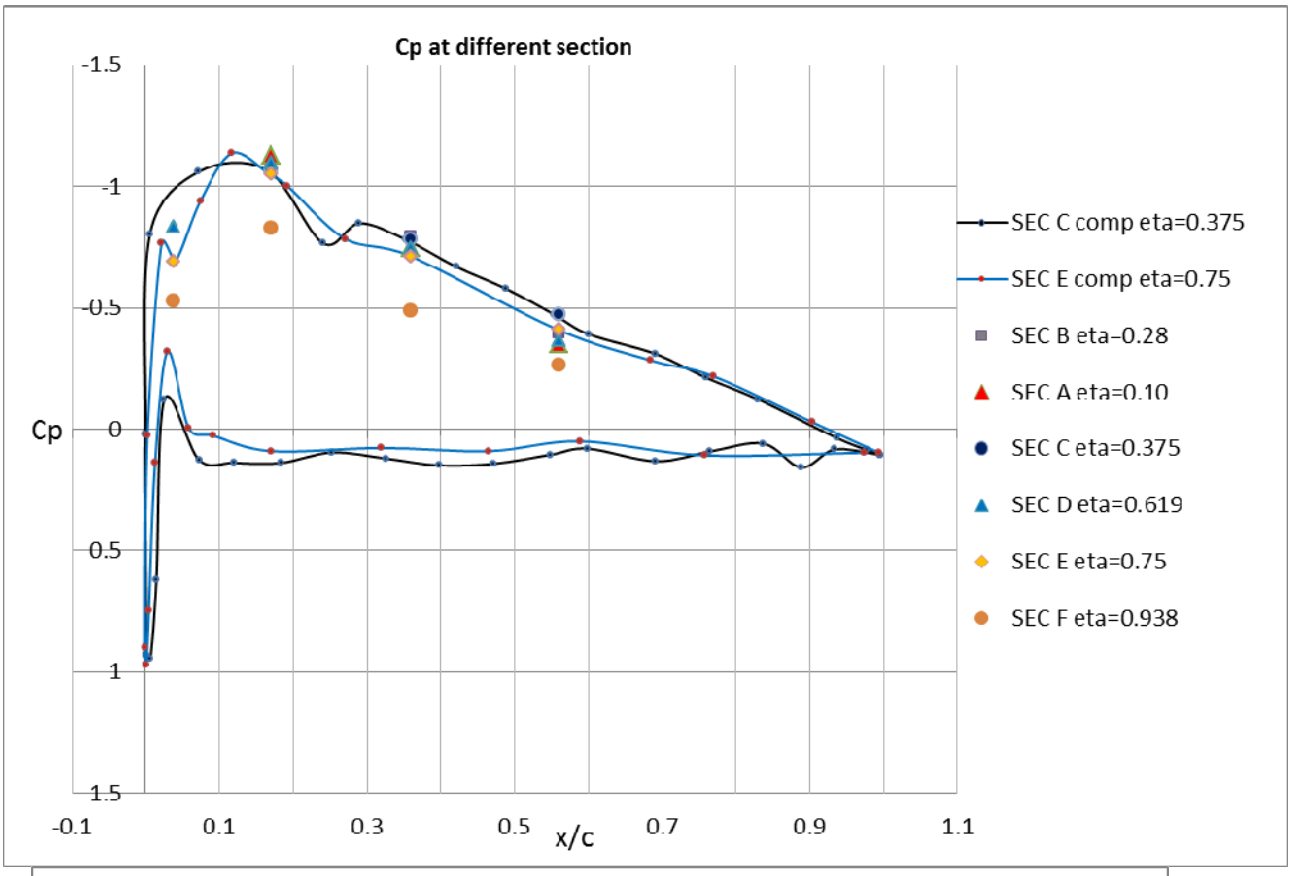
alpha_c= 3.70°

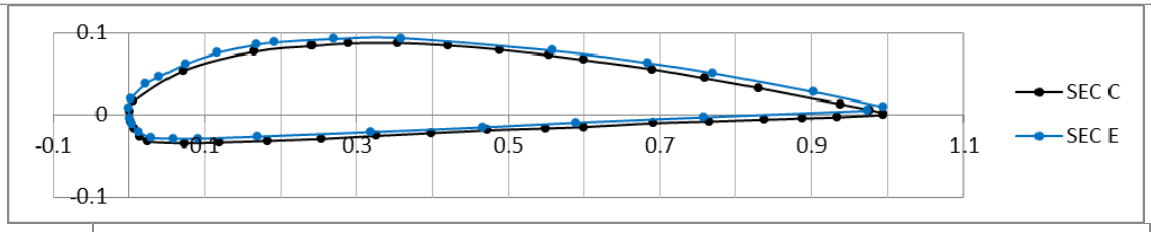

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

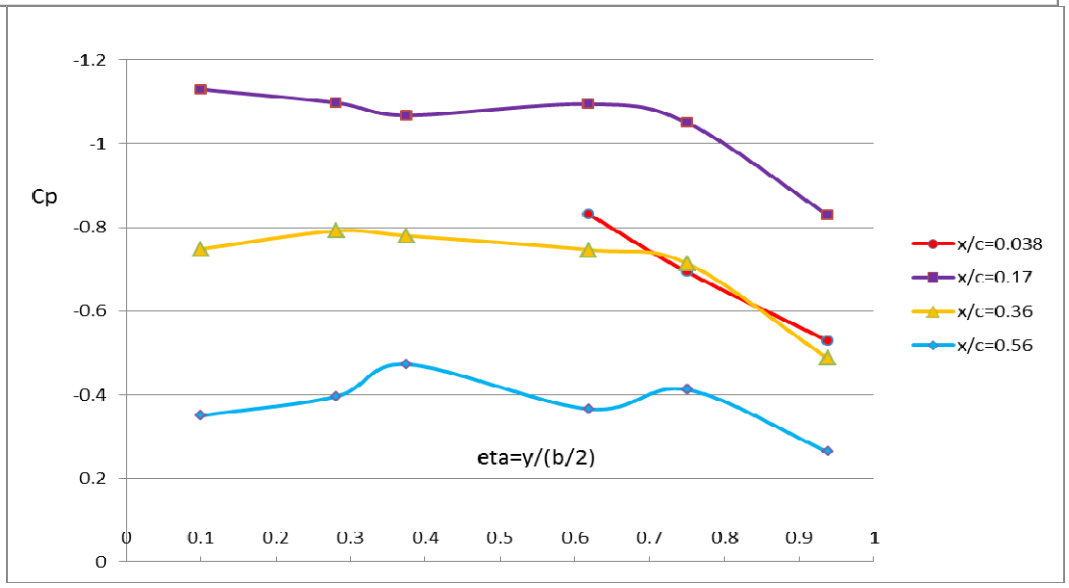

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

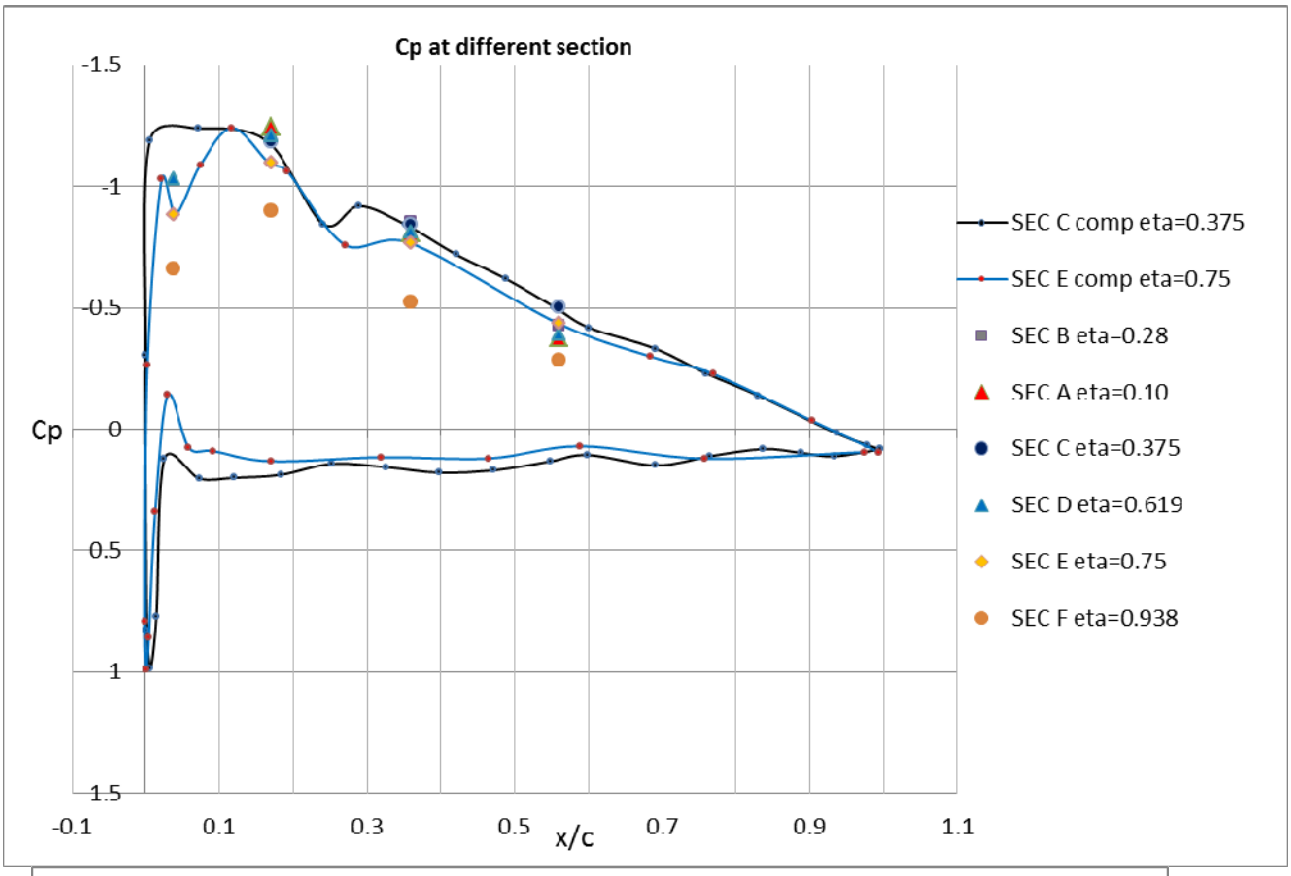
alpha_c= 4.72°

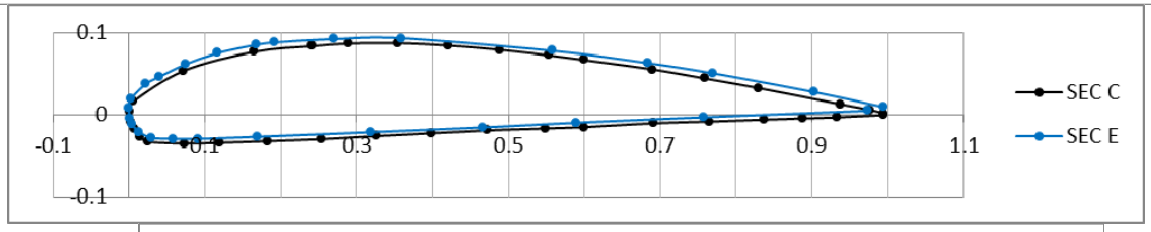

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

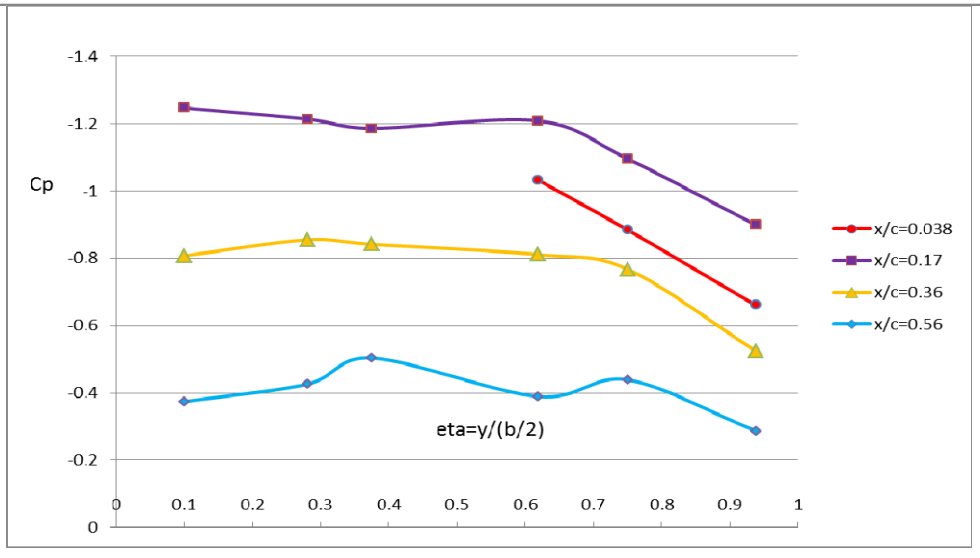

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

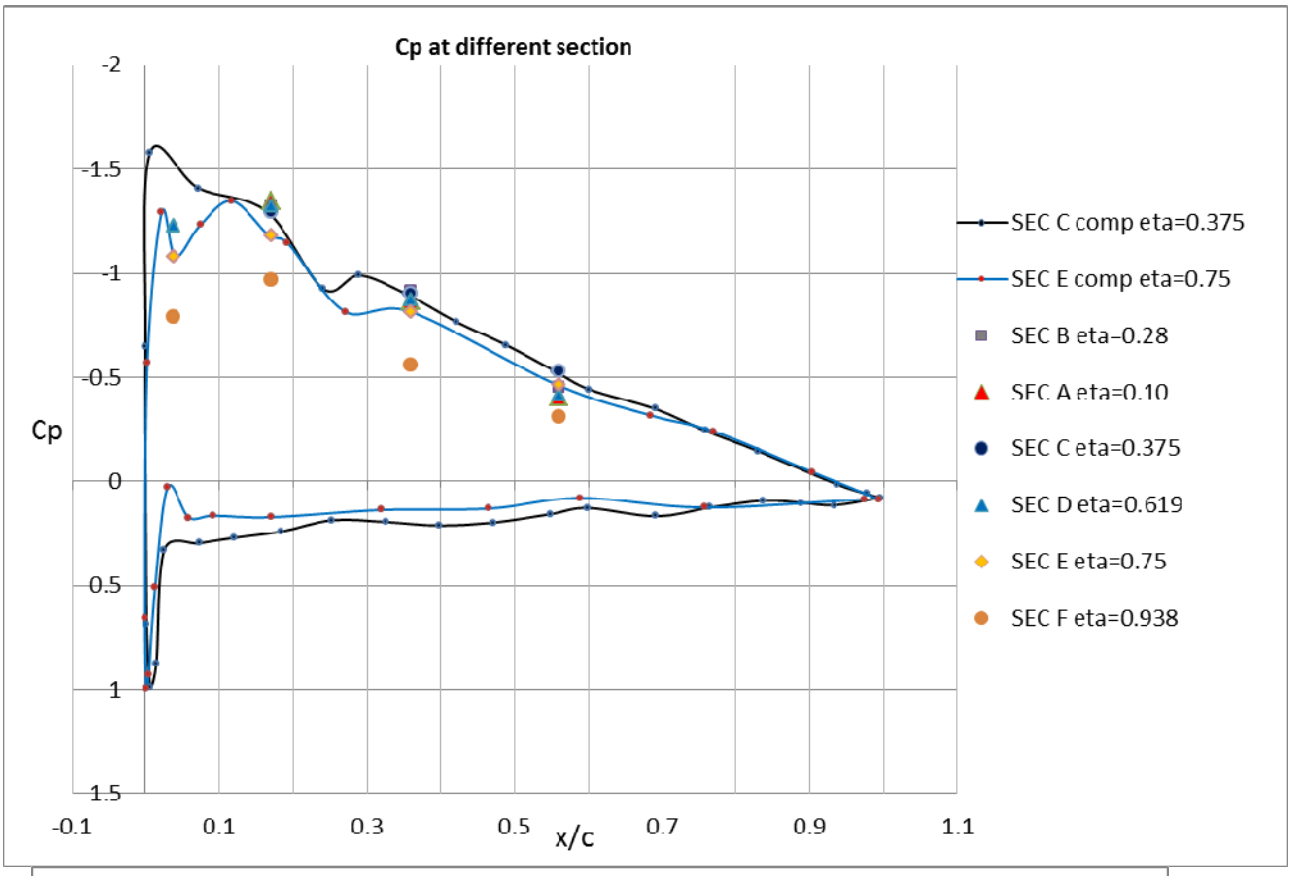
alpha_c= 5.89°

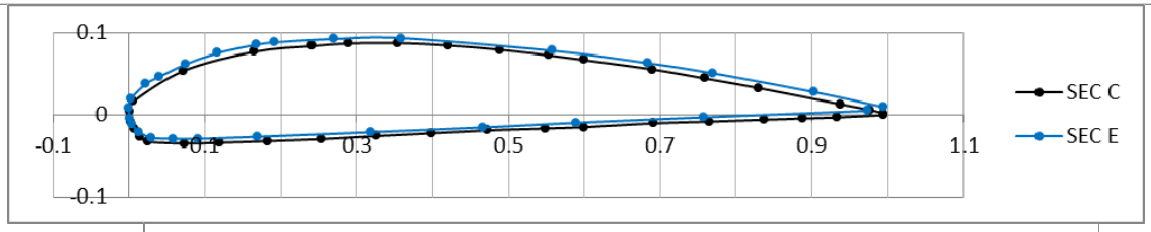

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

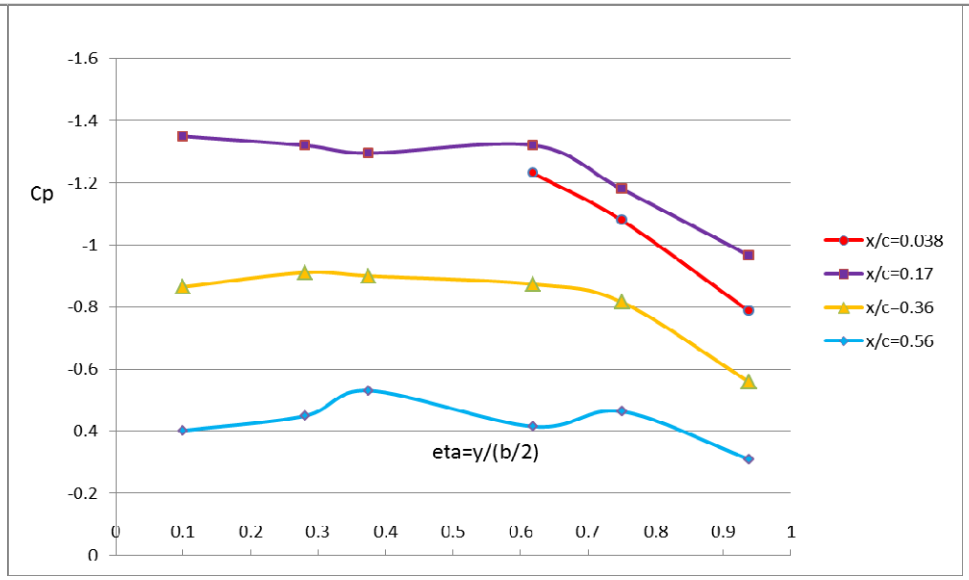

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

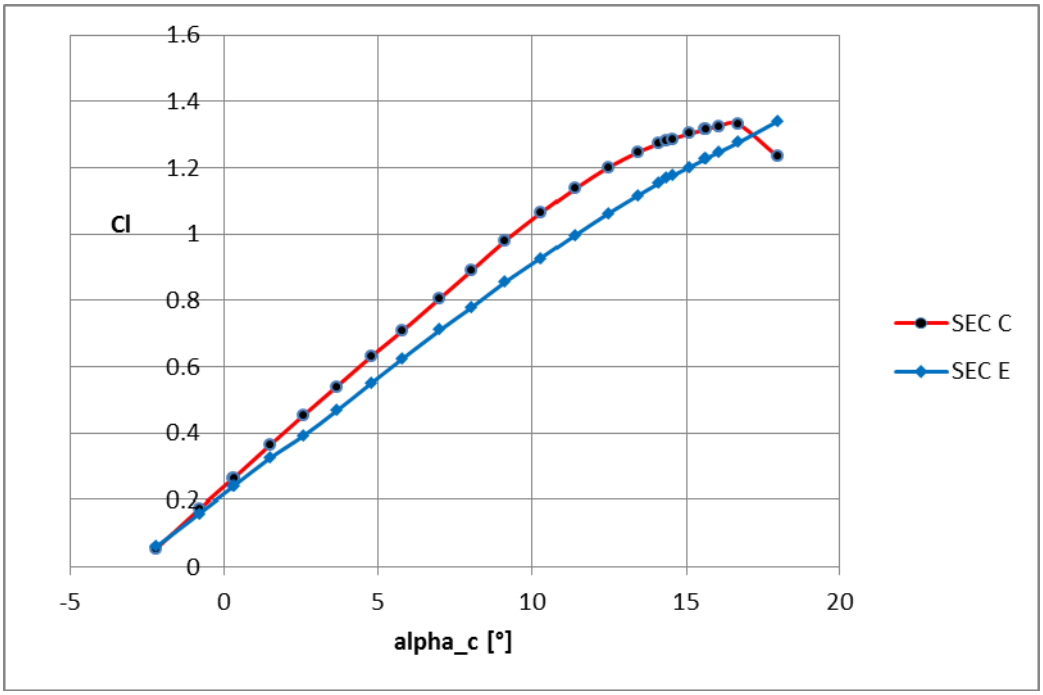
alpha_c= 6.92°


Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

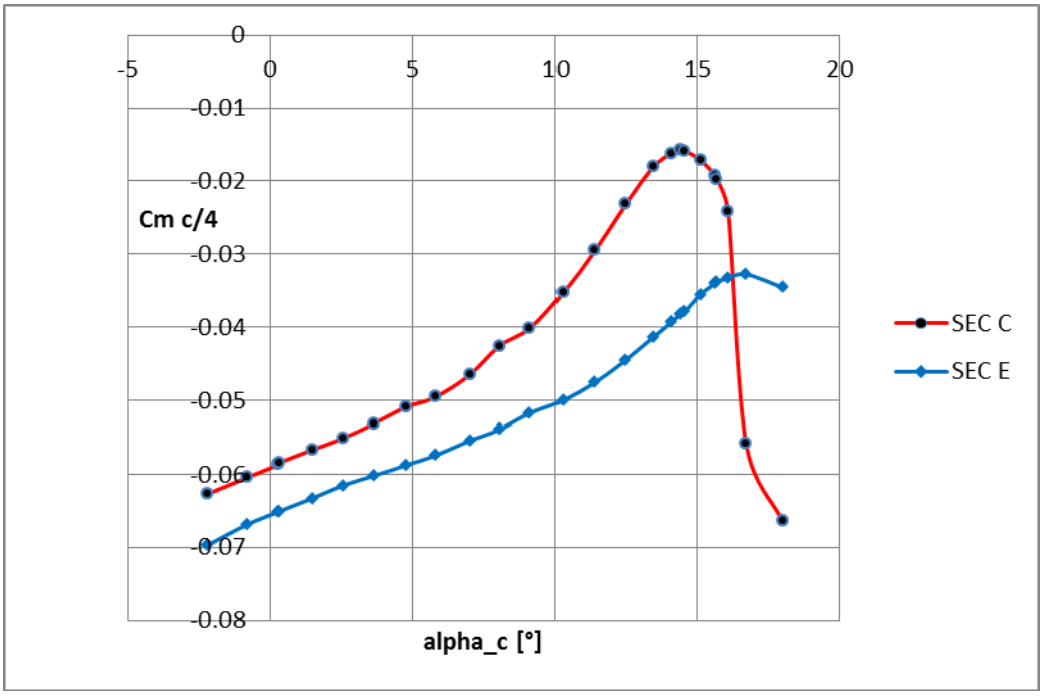

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

6.2.3 TEST T30: V=30 m/s, Transition trips at x/c = 0.014

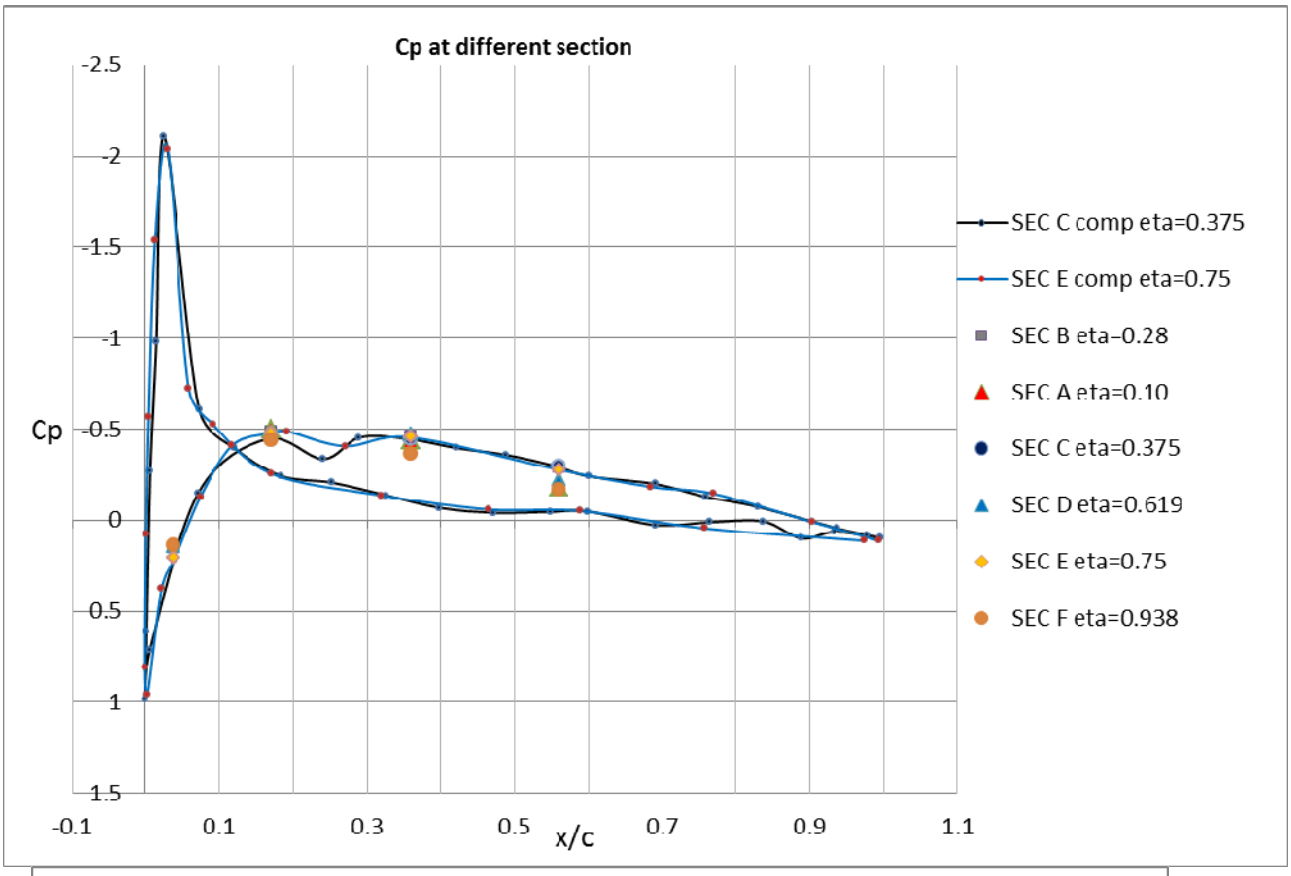


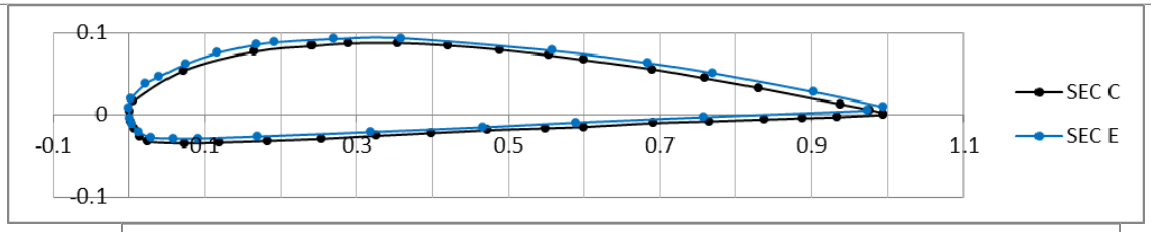
2-D Aerodynamic lift coefficient (corrected for solid block) Cl extracted from pressure distribution

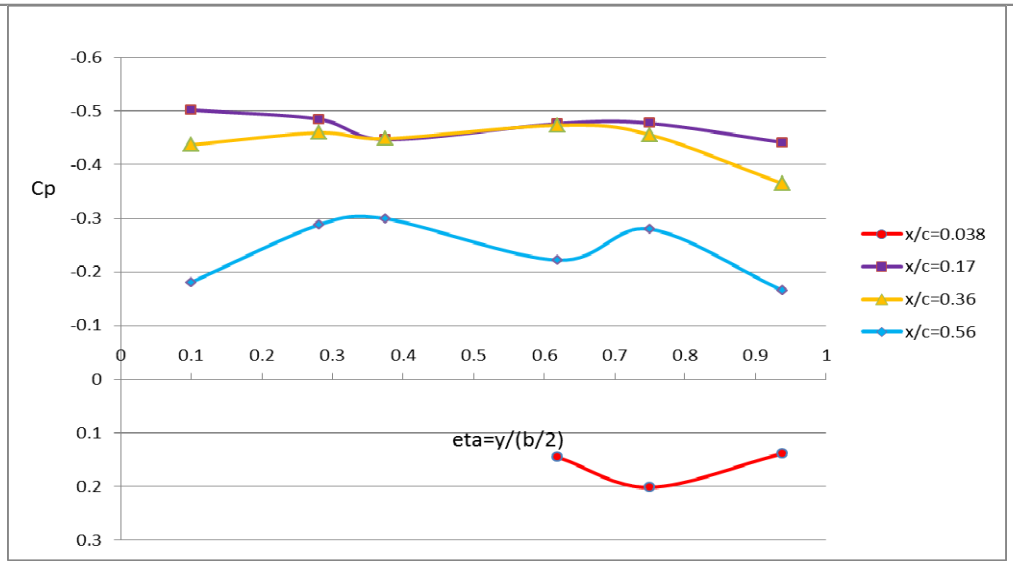


2-D Aerodynamic moment coefficient r.t.25% chord (corrected for solid block) extracted from pressure distribution

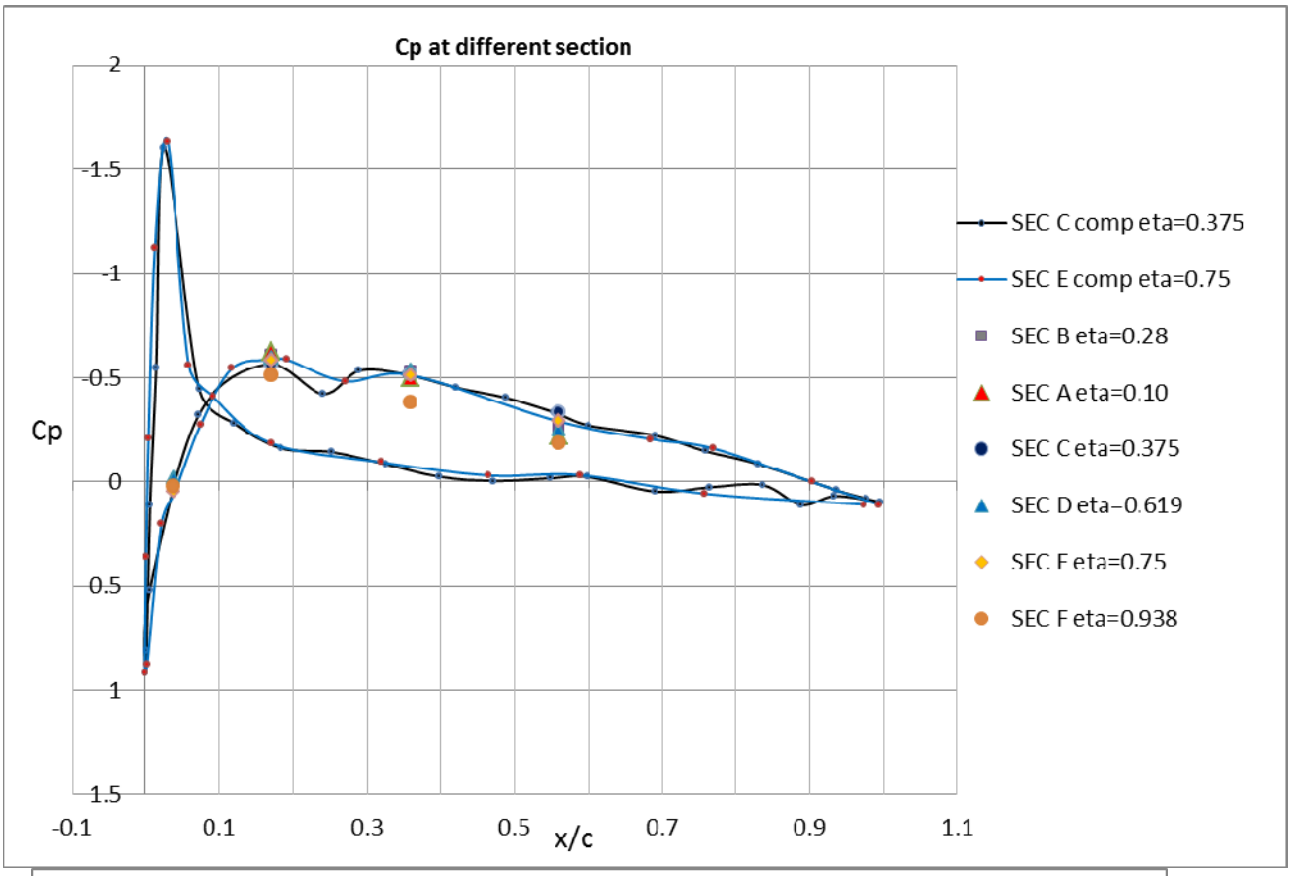
alpha_c=-2.22°

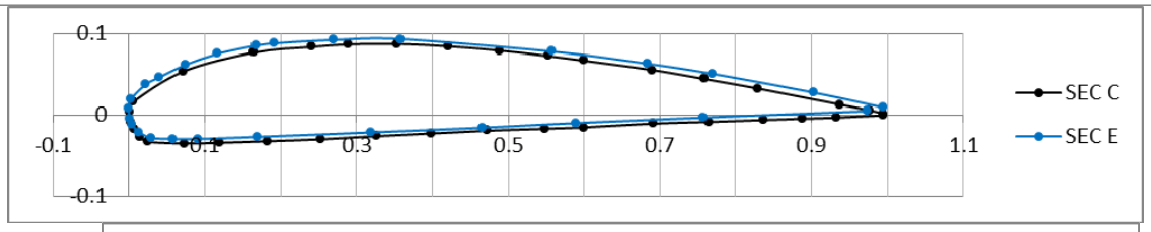

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

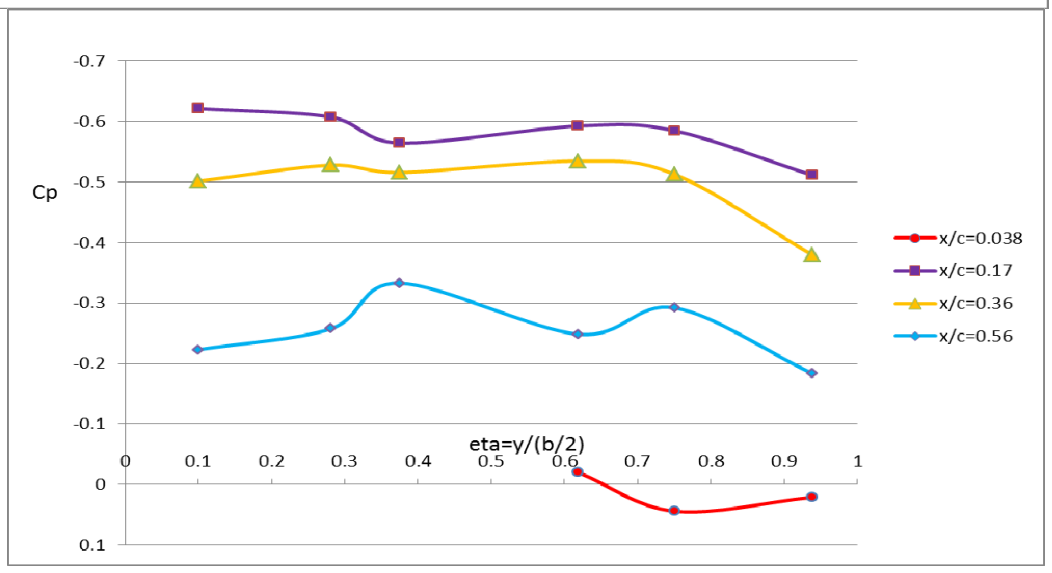

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

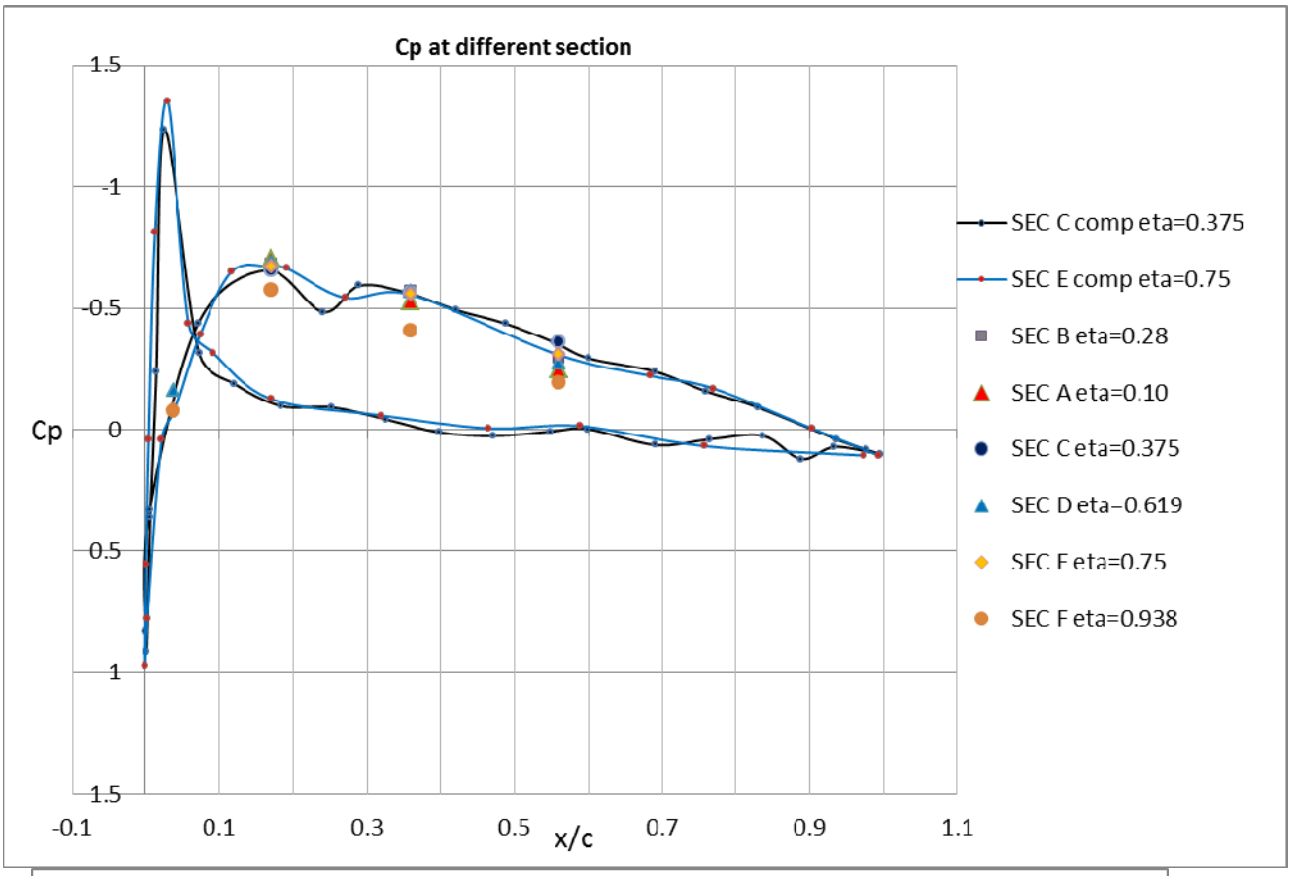
alpha_c= -0.81°

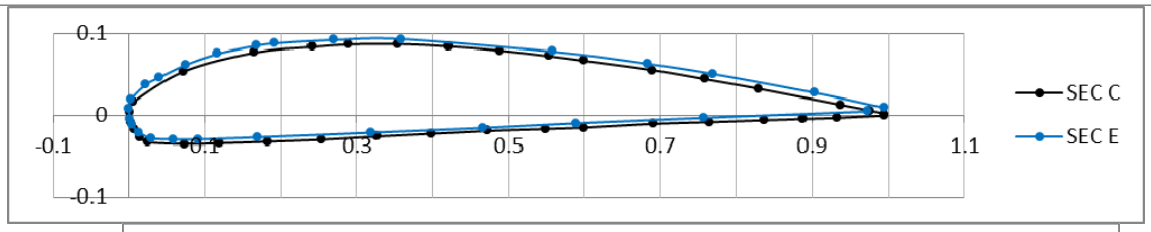

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

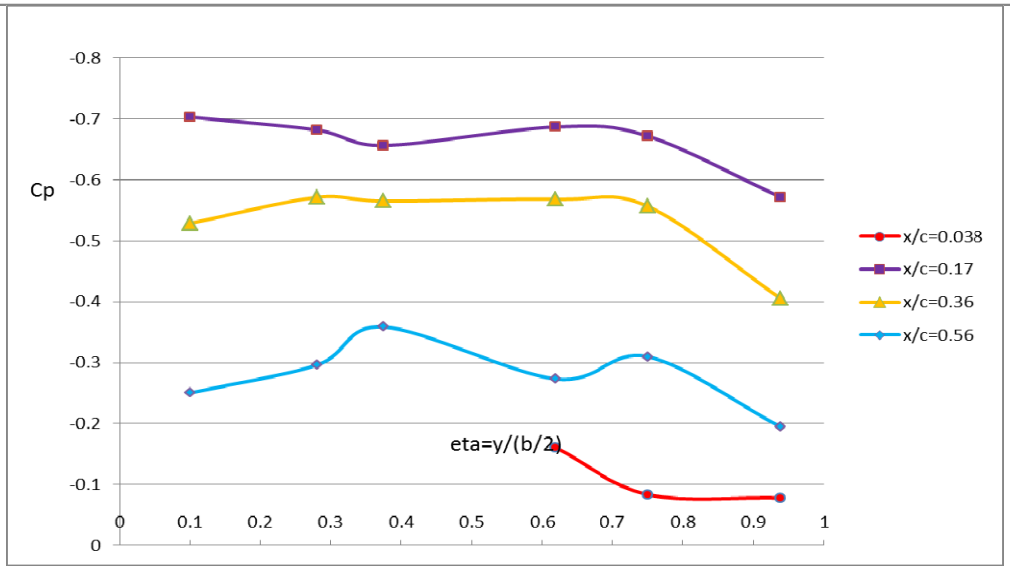

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

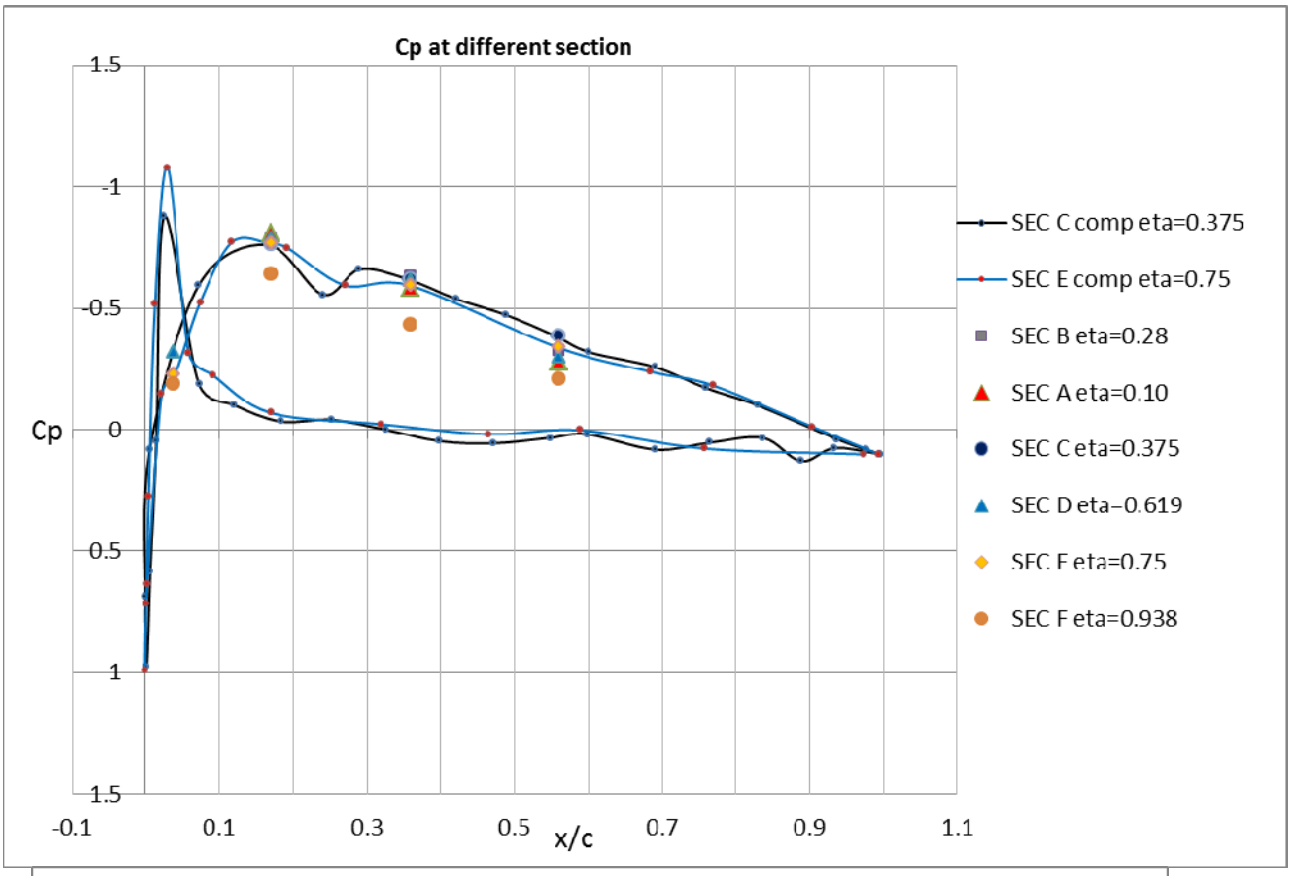
alpha_c= 0.32°

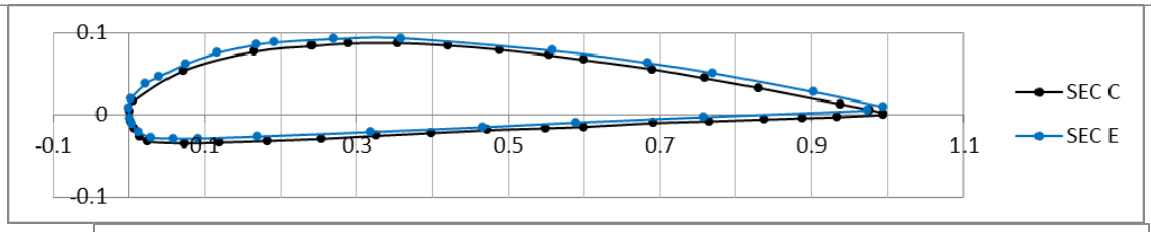

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

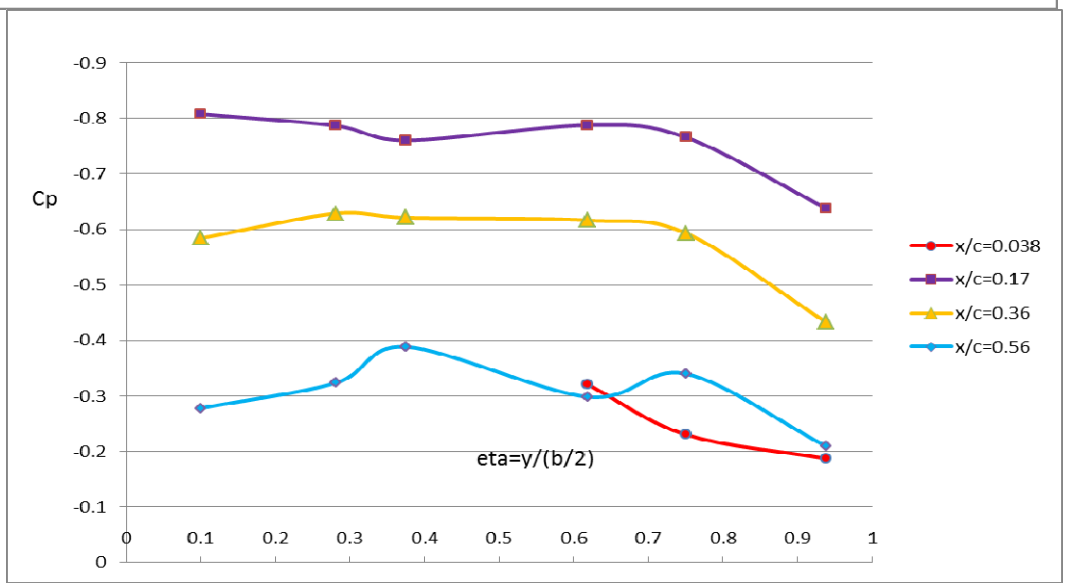

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

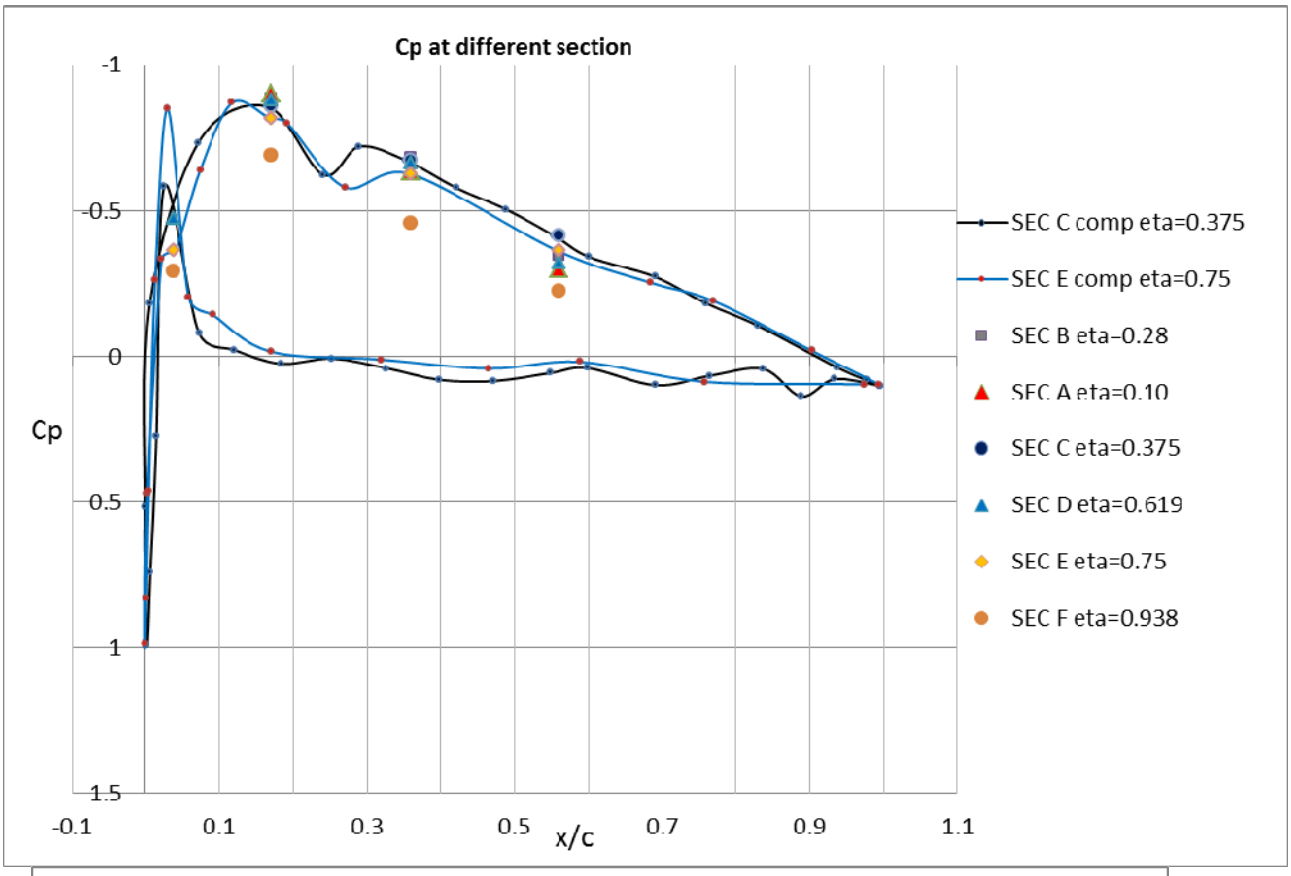
alpha_c= 1.49°

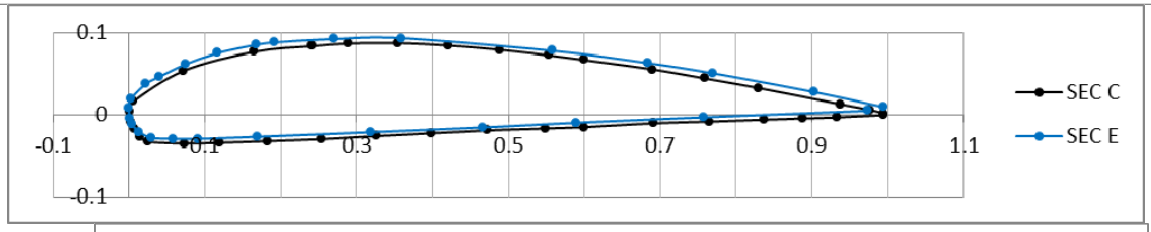

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

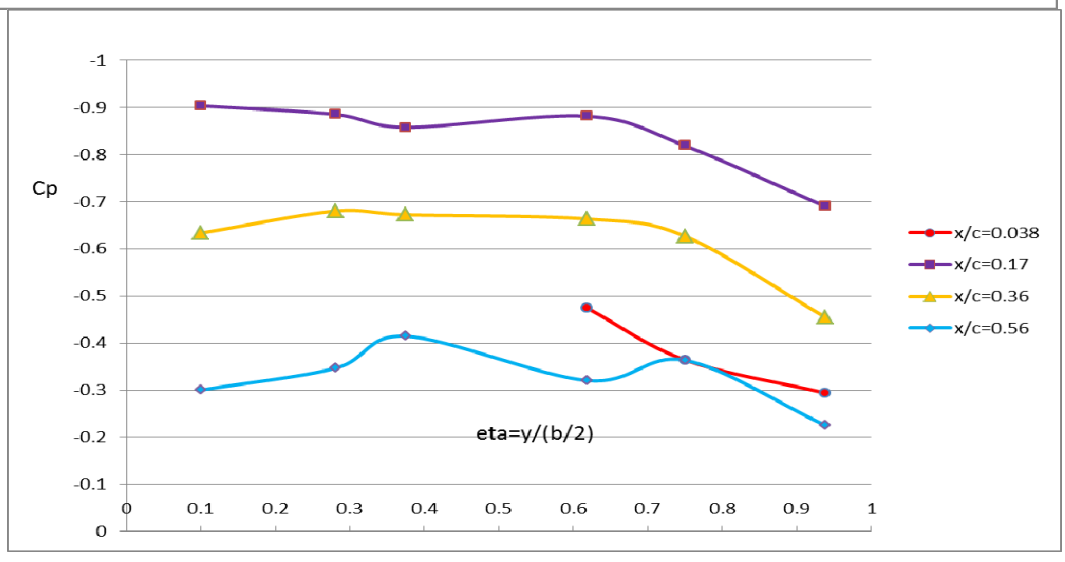

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

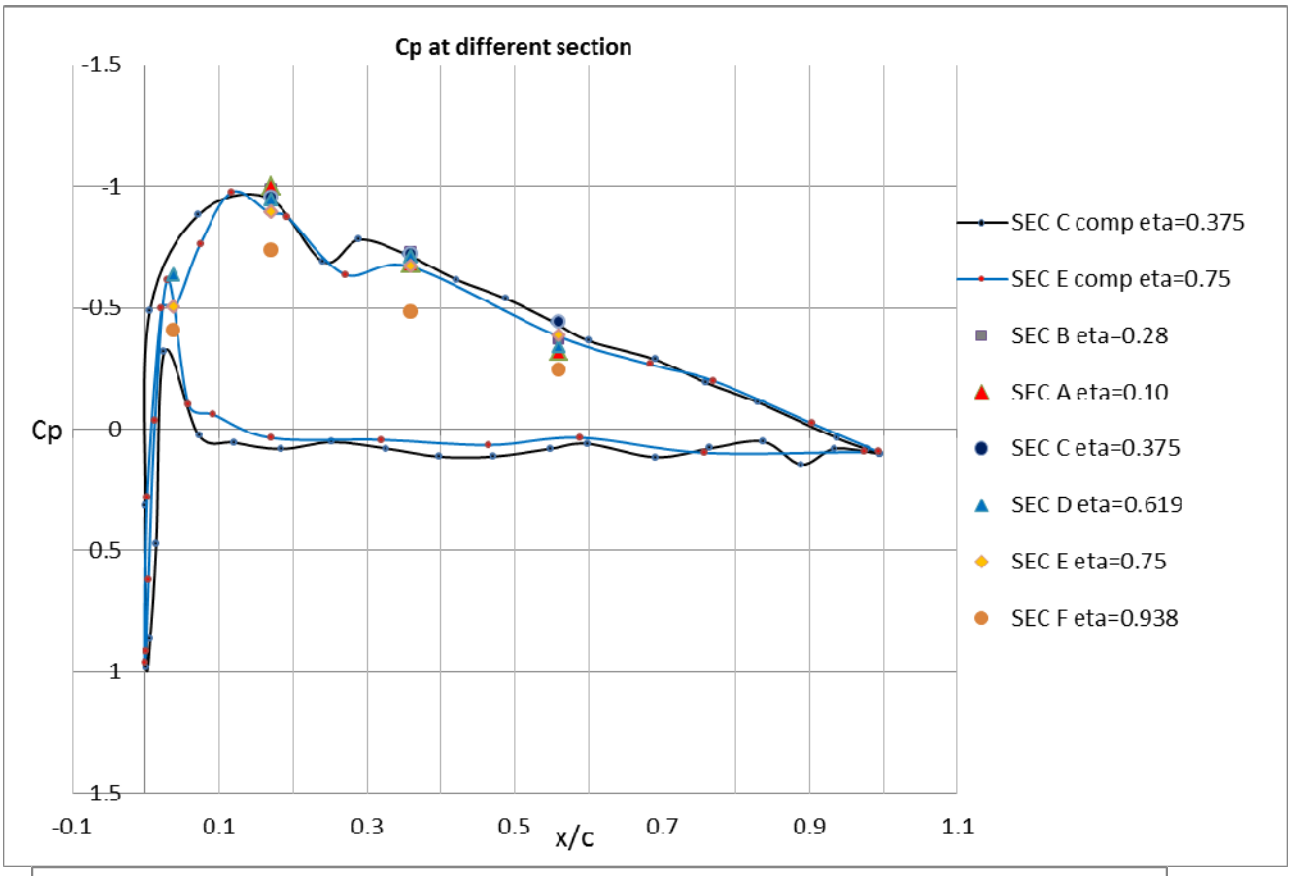
alpha_c= 2.57°

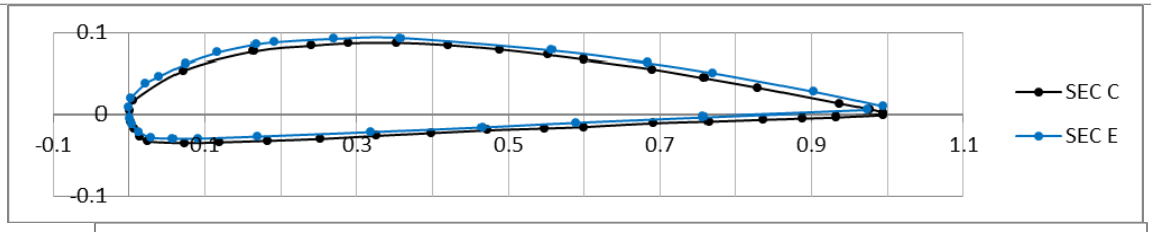

Cp at different section
Cp
x/c
-1
-0.5
0
0.5
1
1.5
-0.1
0.1
0.3
0.5
0.7
0.9
1.1
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

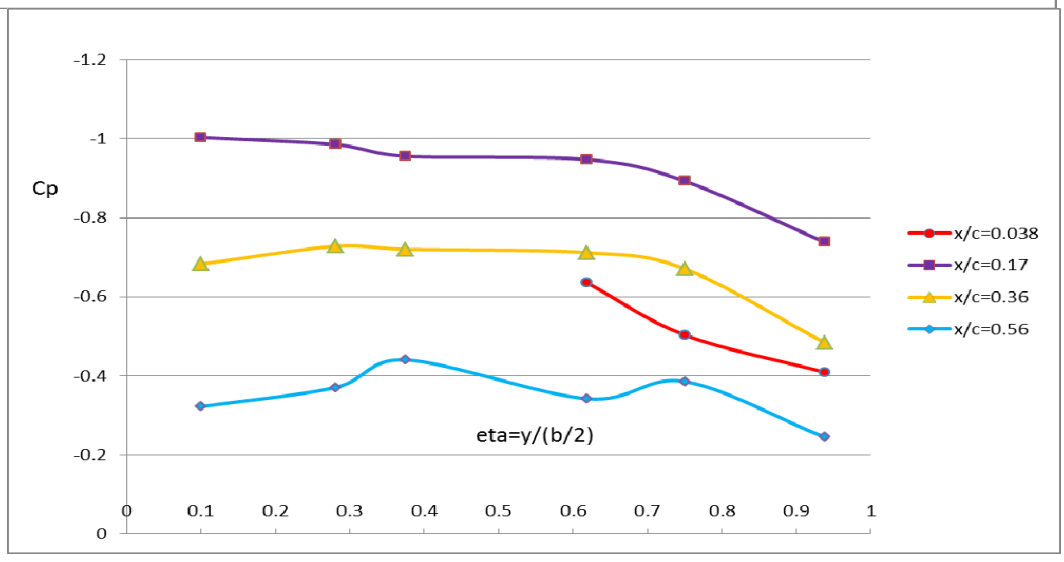

0.1
0
-0.1
-0.1
0.1
0.3
0.5
0.7
0.9
1.1
SEC C
SEC E


Cp
eta=y/(b/2)
-1
-0.9
-0.8
-0.7
-0.6
-0.5
-0.4
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

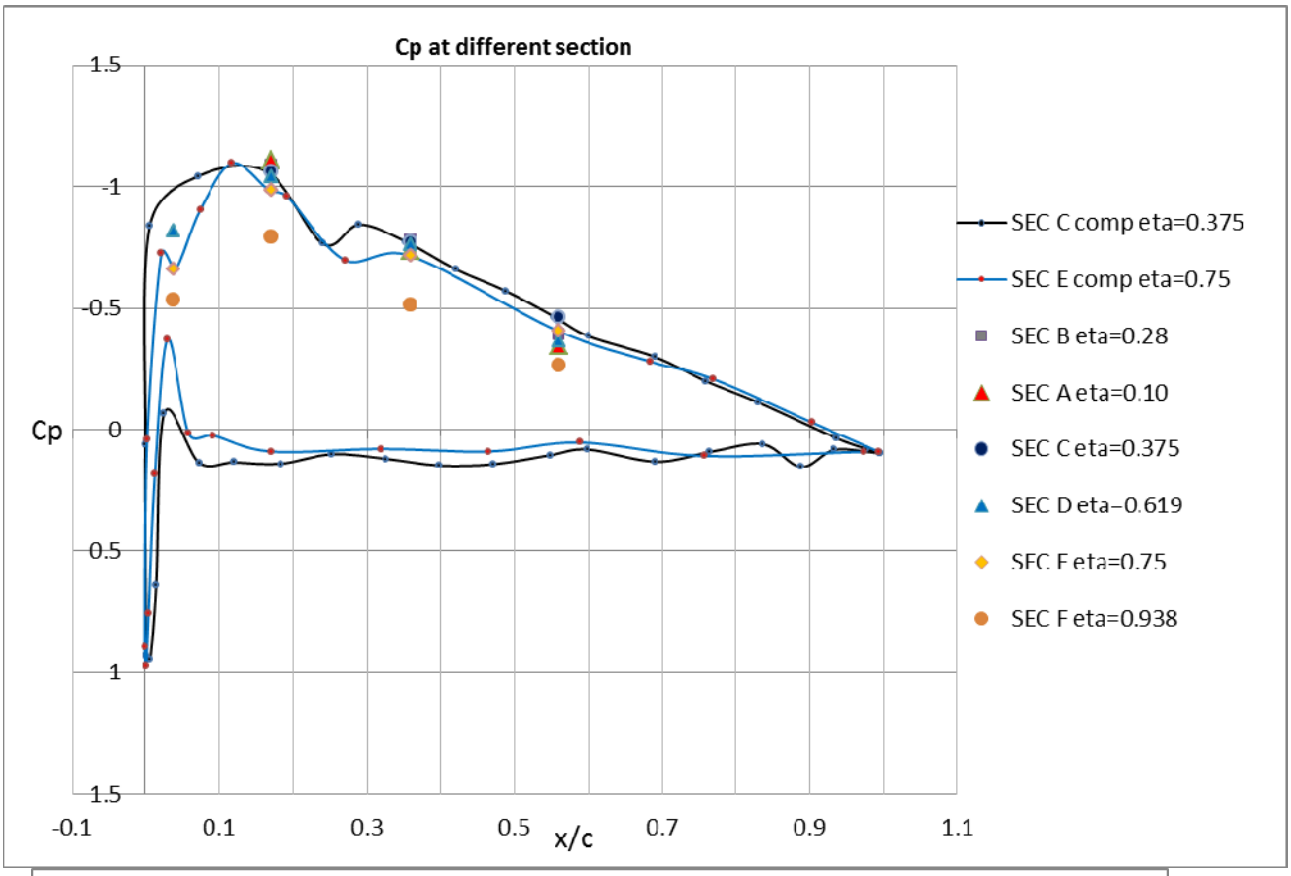
alpha_c= 3.66°

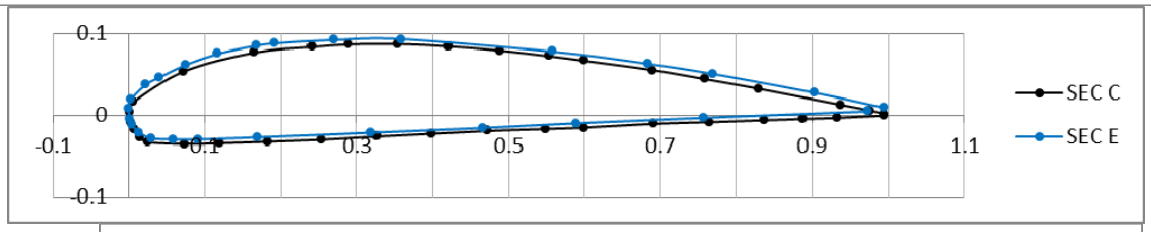

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

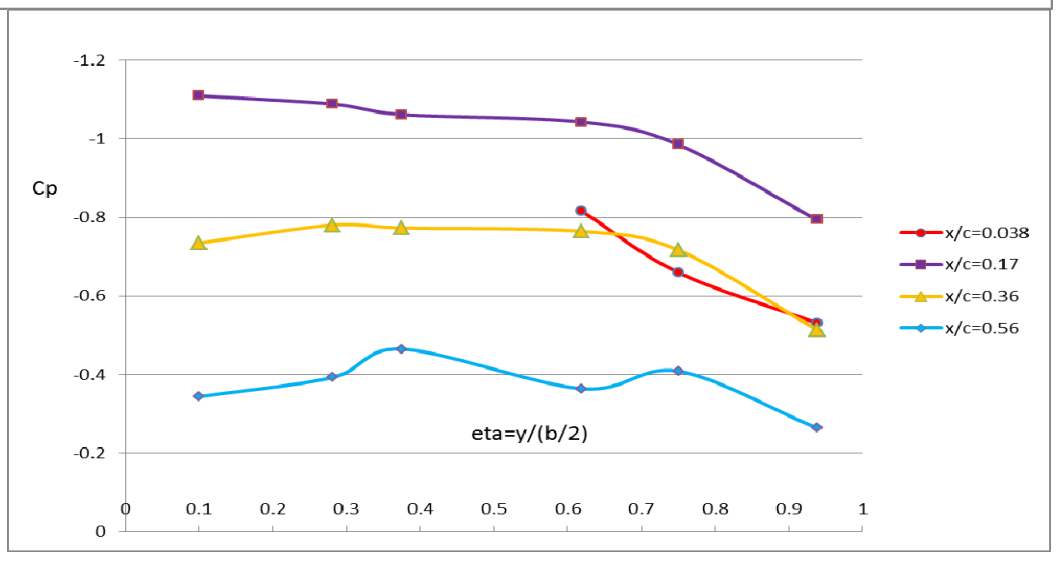

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

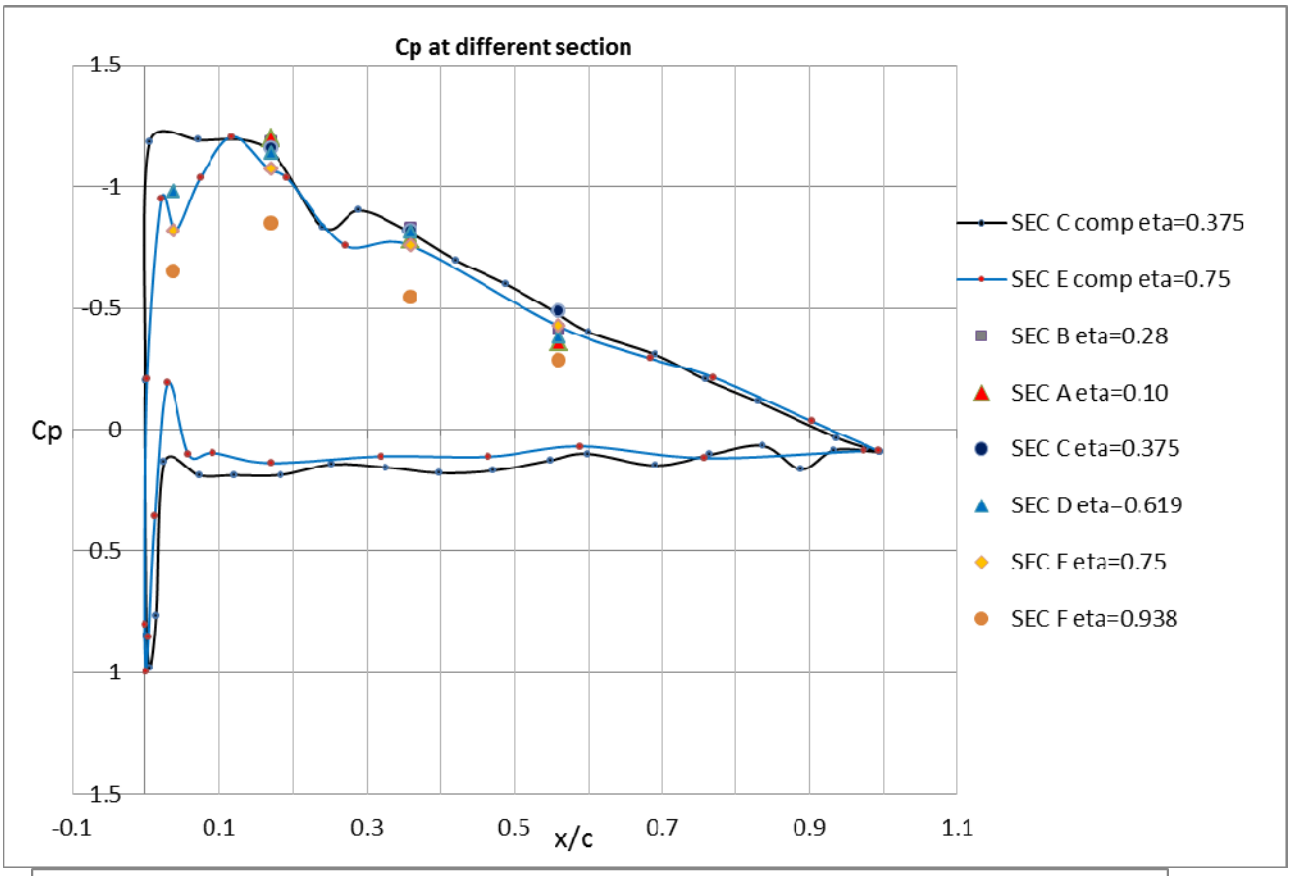
alpha_c= 4.79°

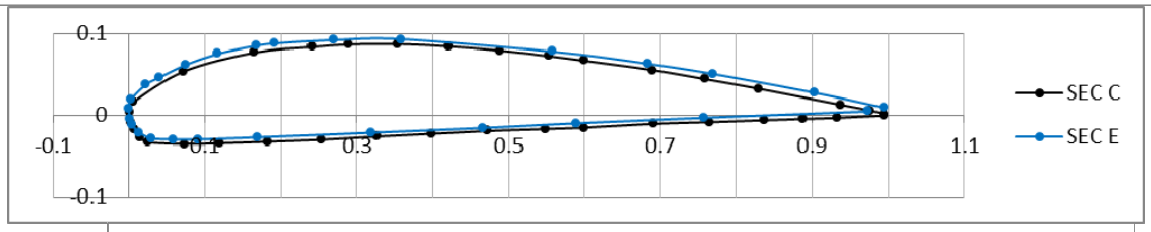

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

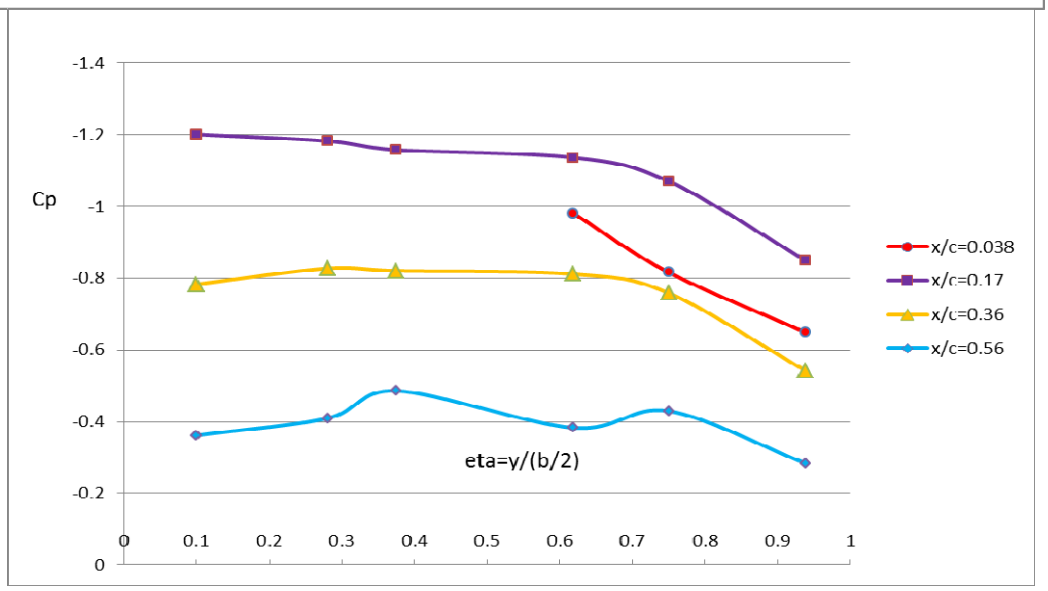

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

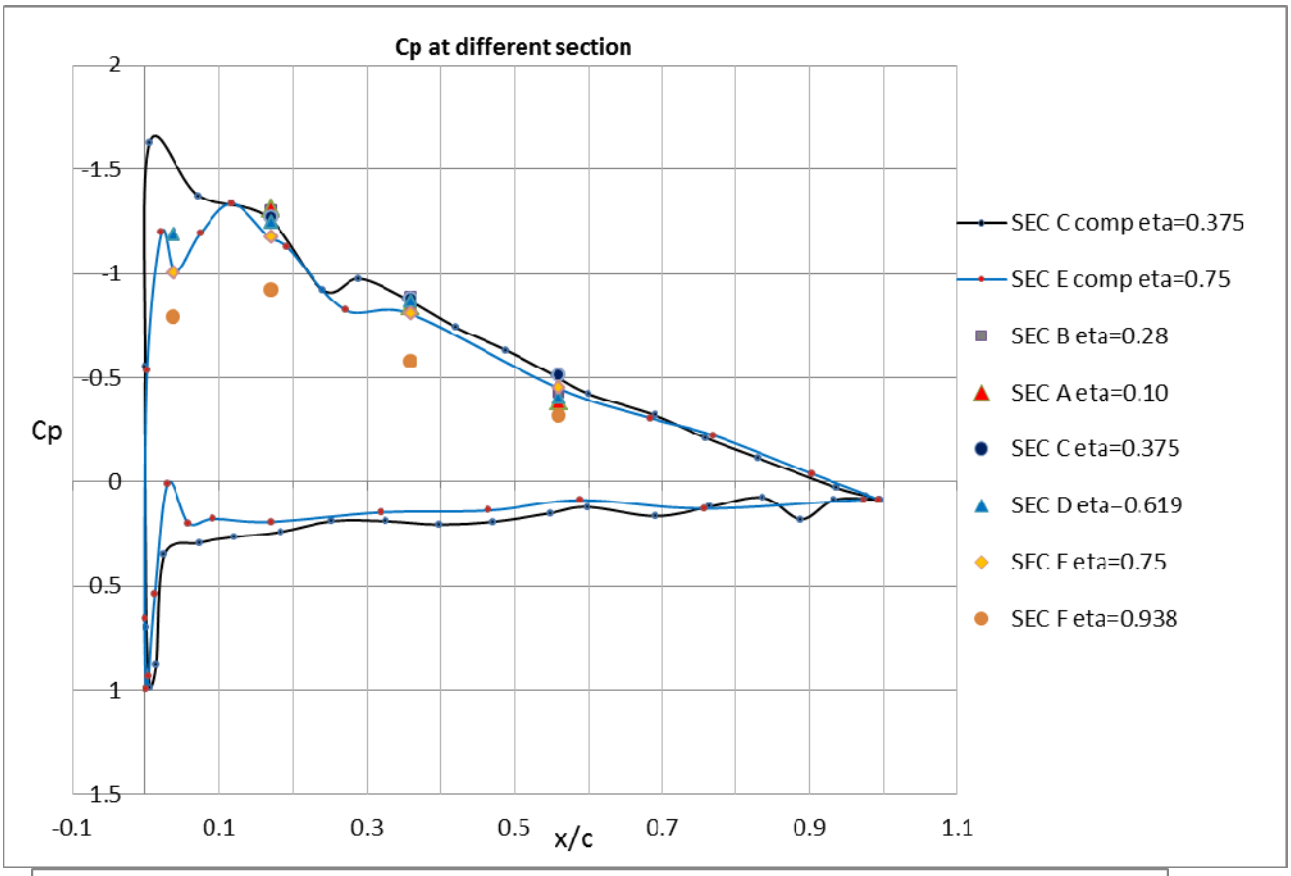
alpha_c= 5.82°

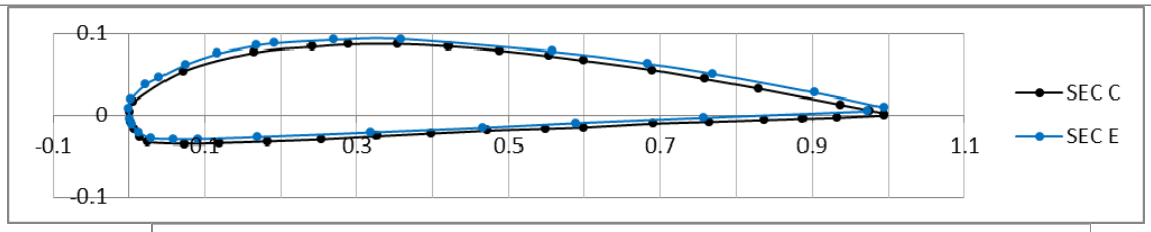

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

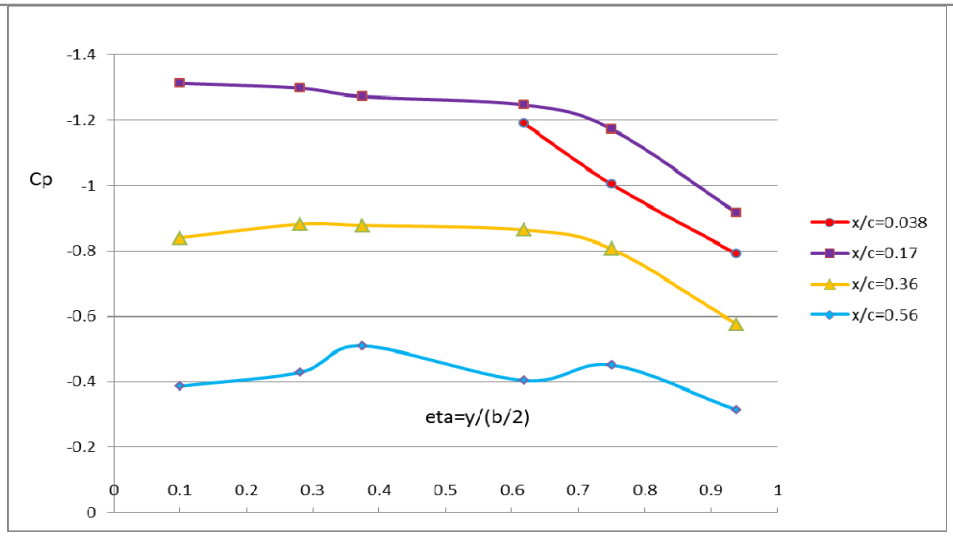

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

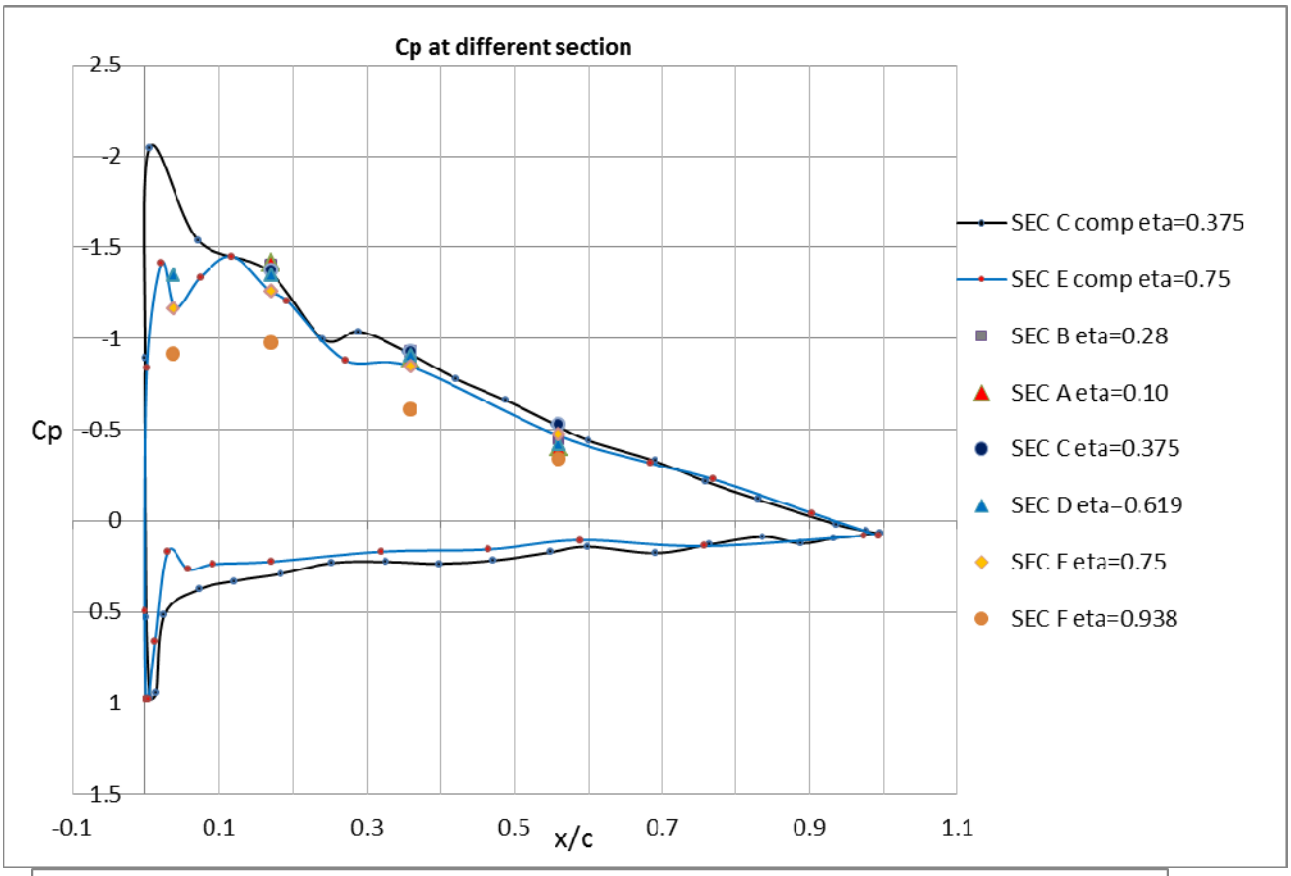
alpha_c= 7.03°

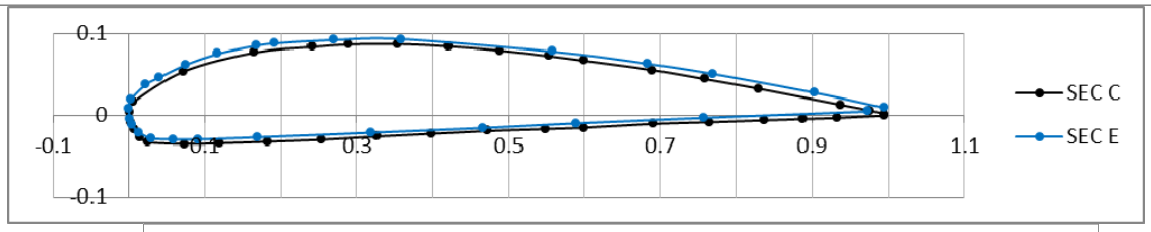

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

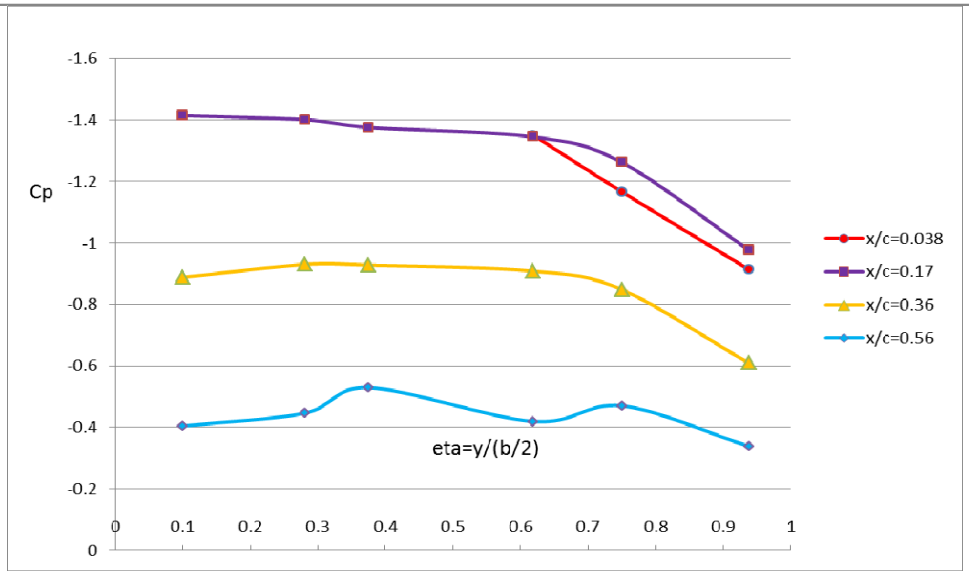

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

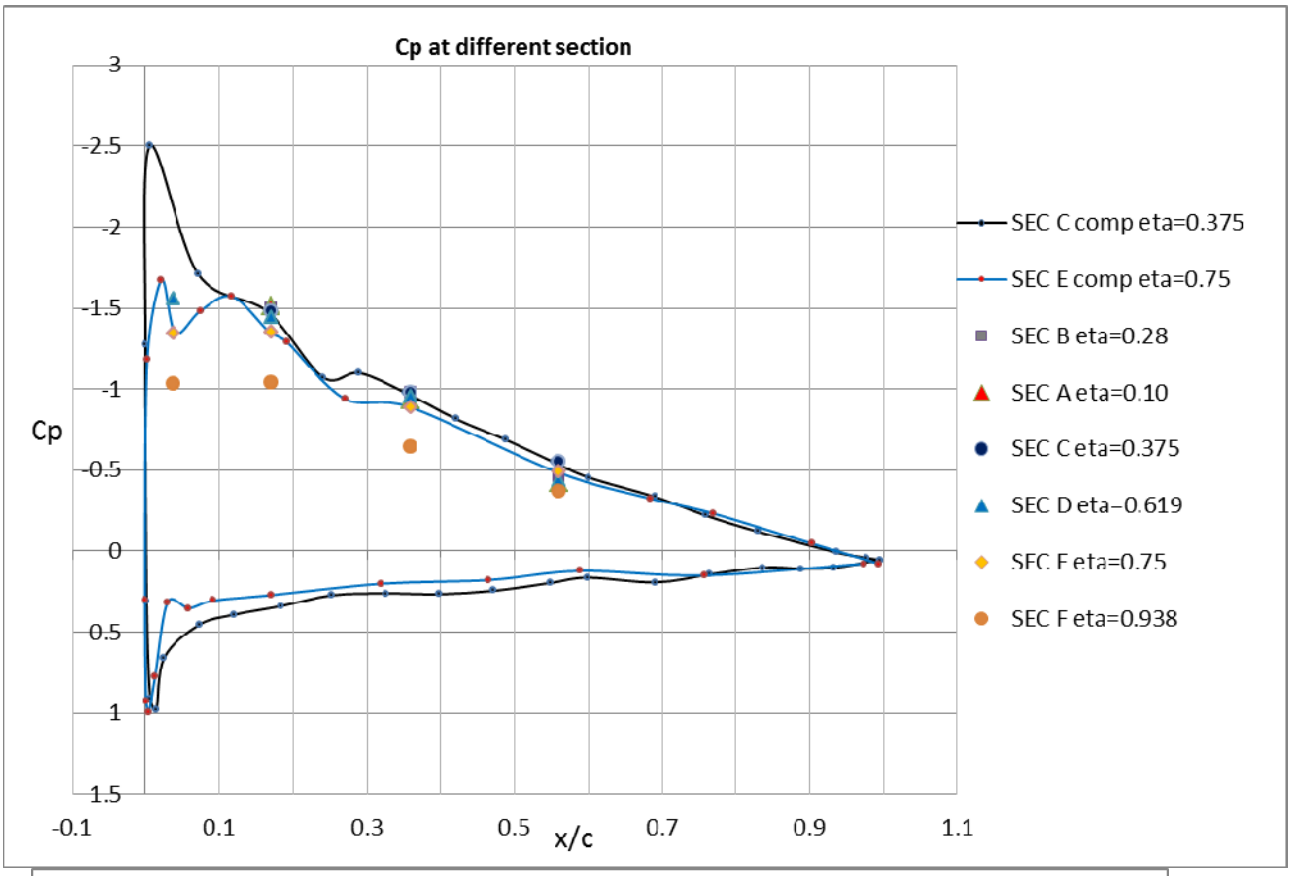
alpha_c= 8.07°

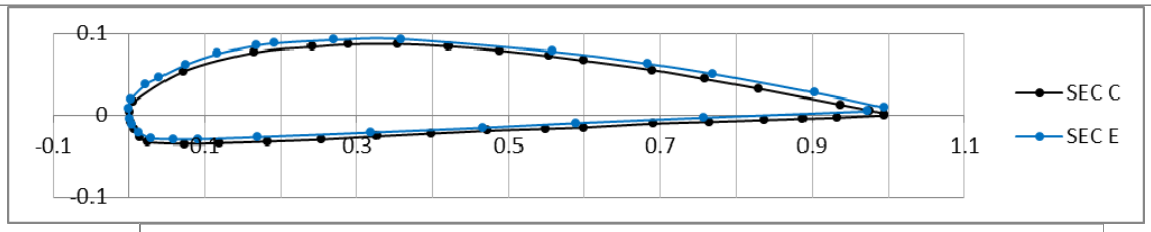

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

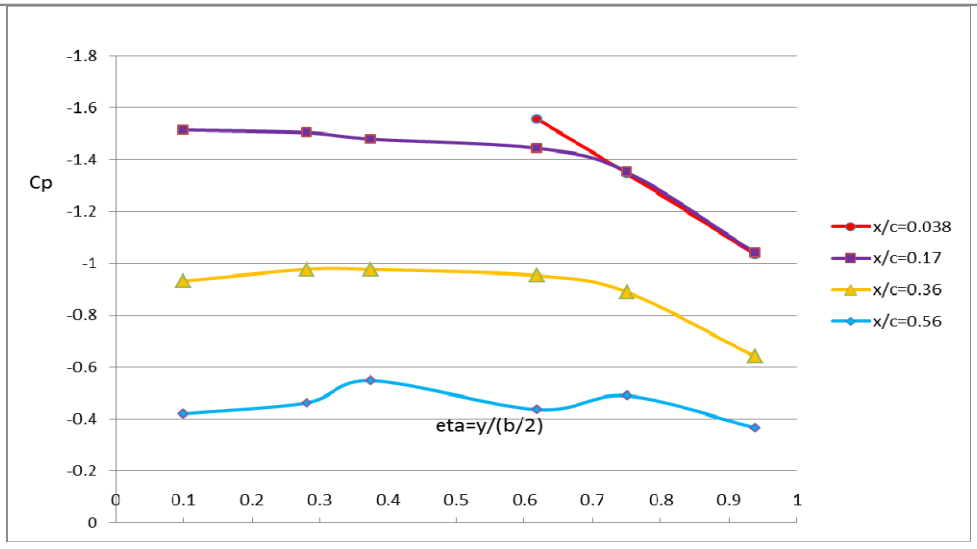

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

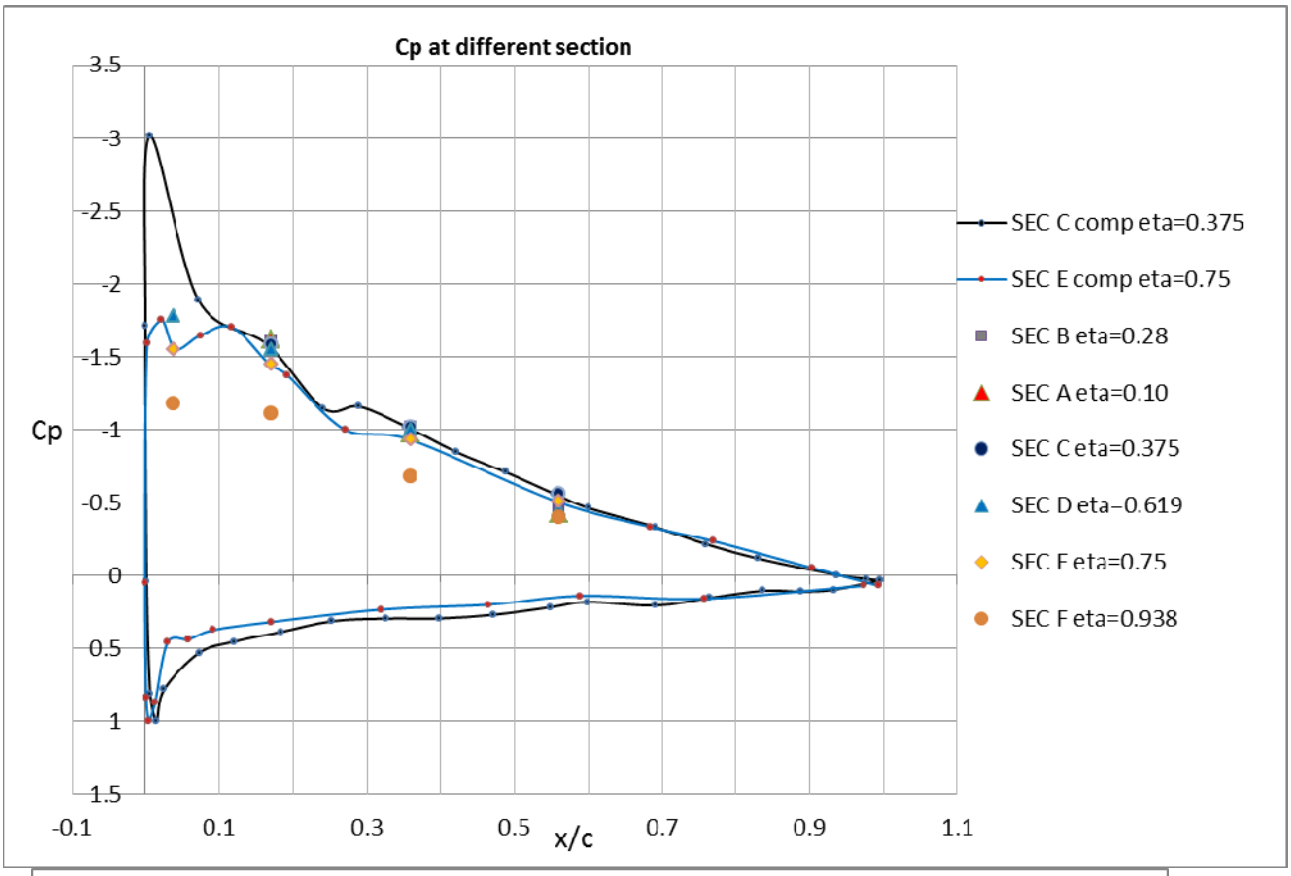
alpha_c= 9.13°

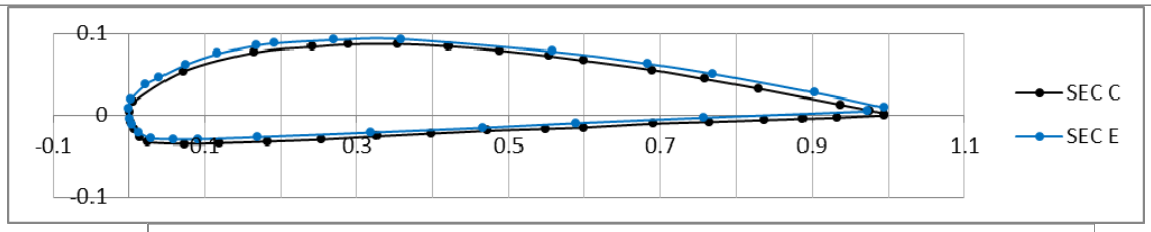

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

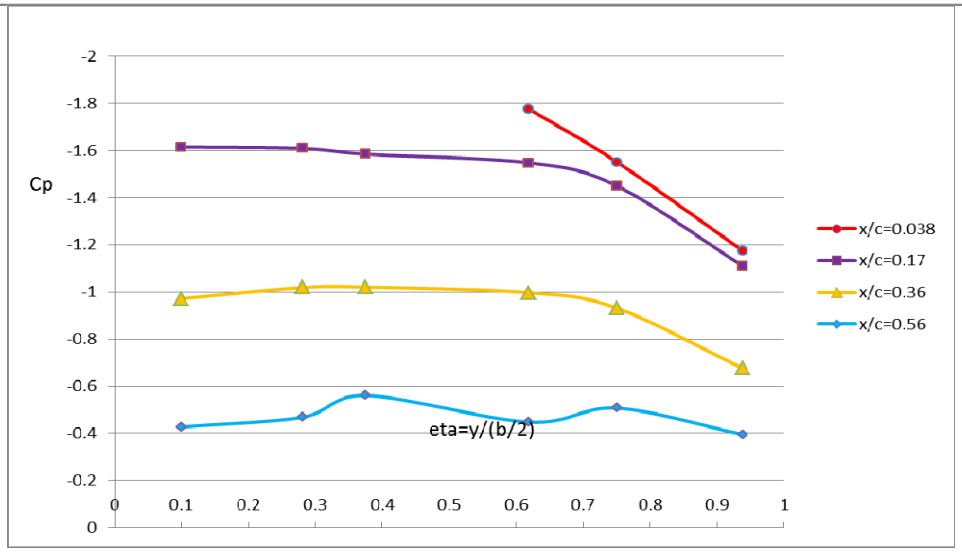

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

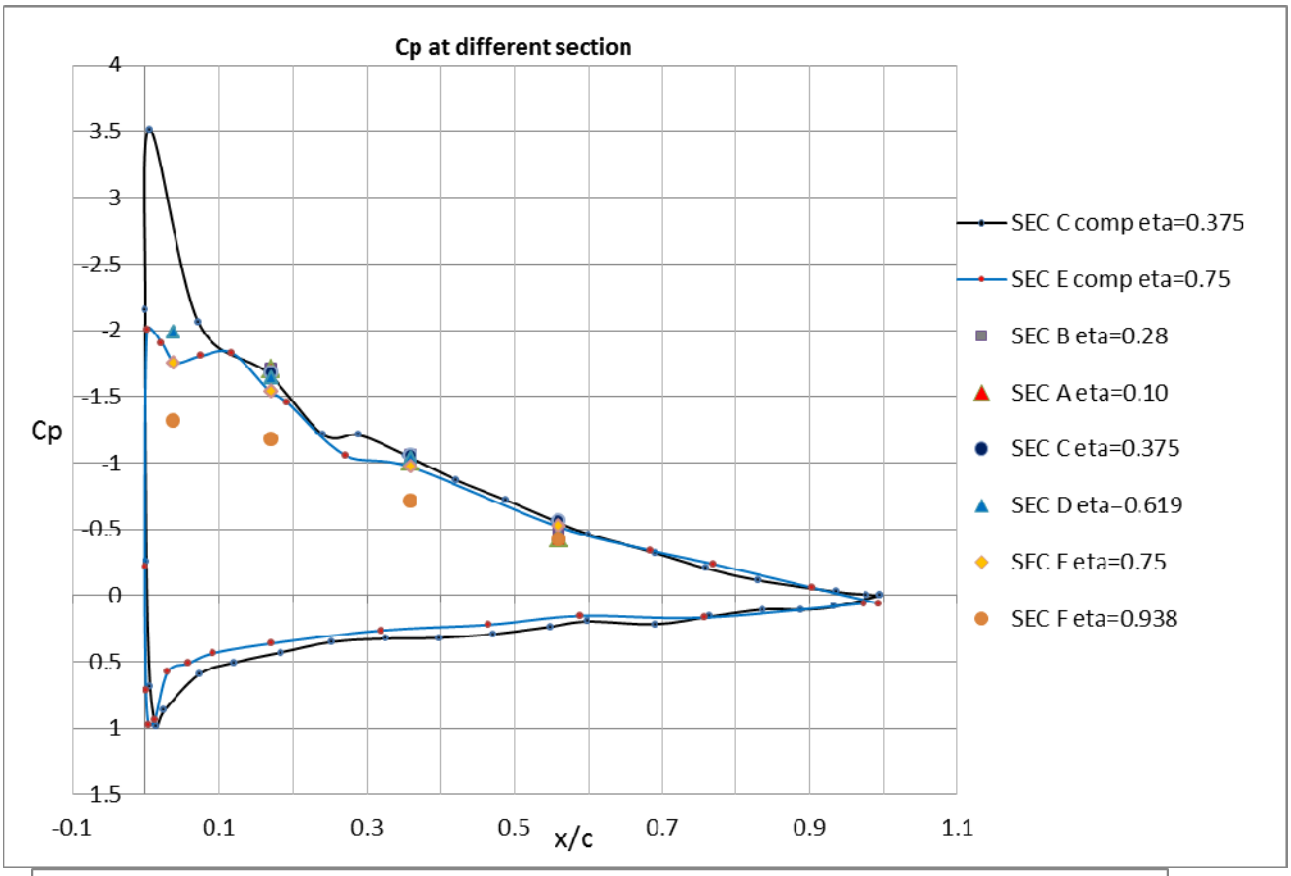
alpha_c= 10.29°

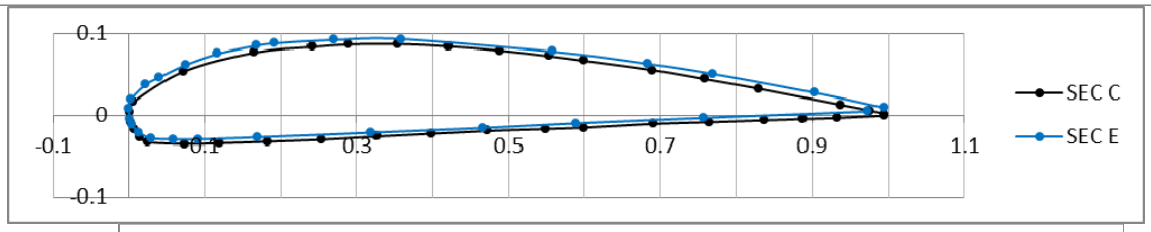

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

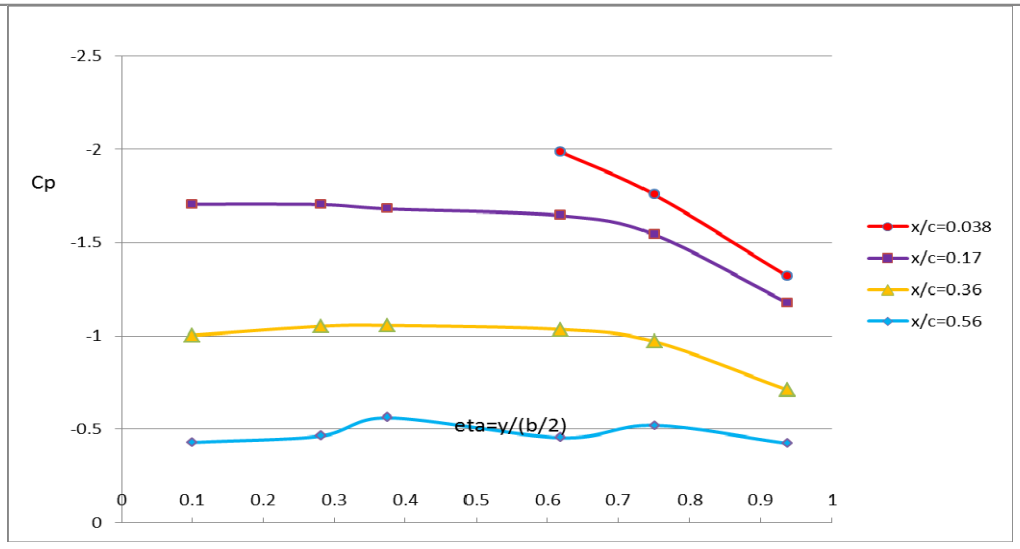

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

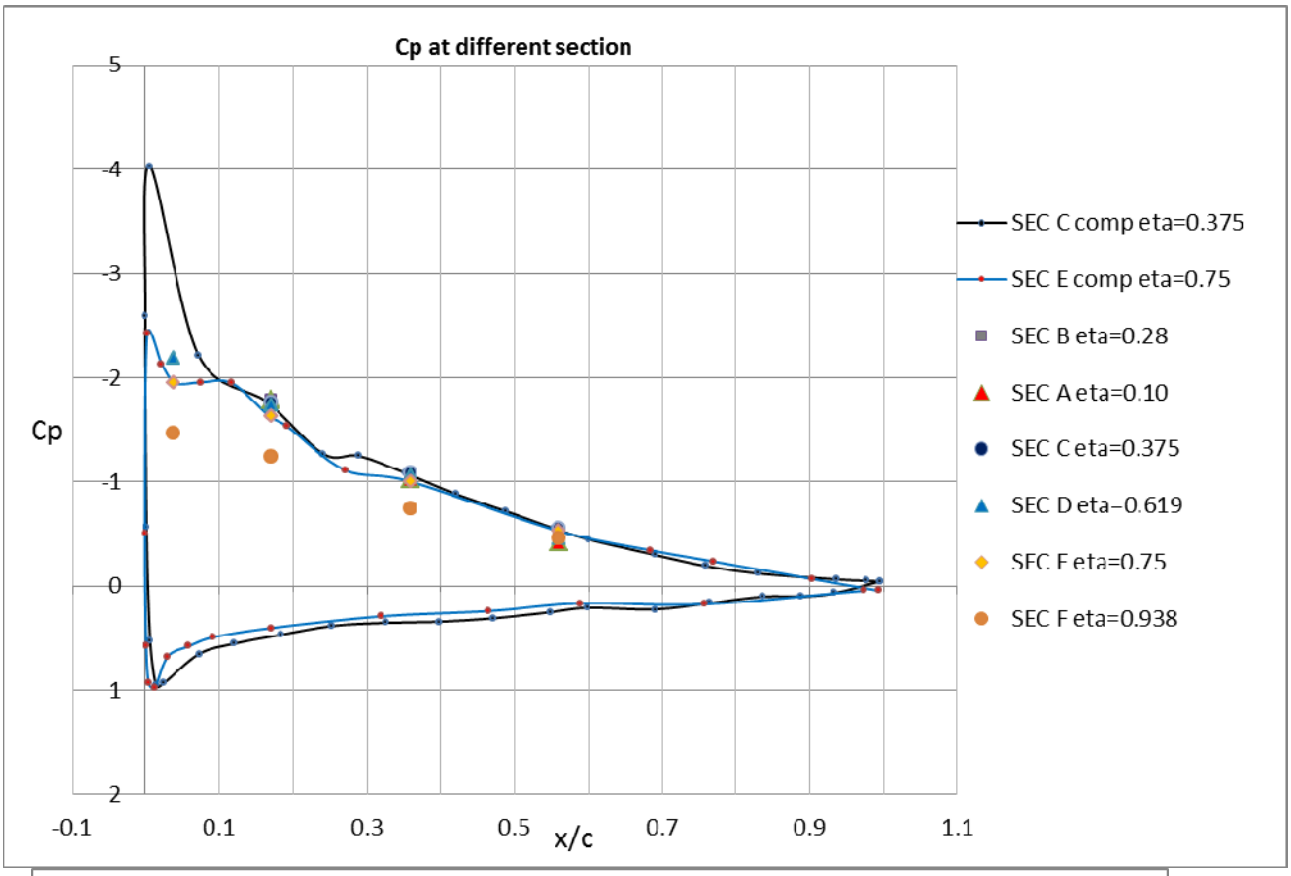
alpha_c= 11.39°

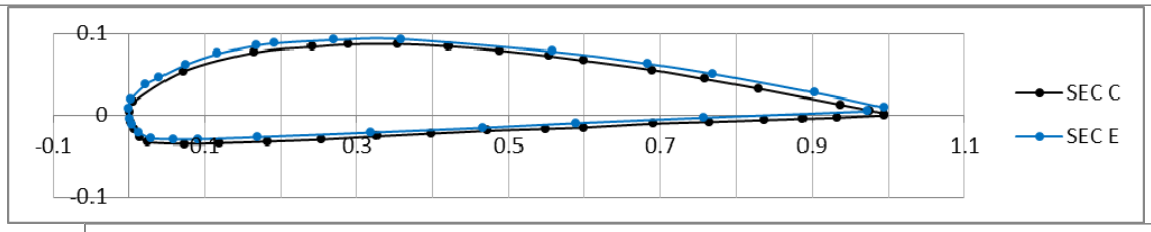

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

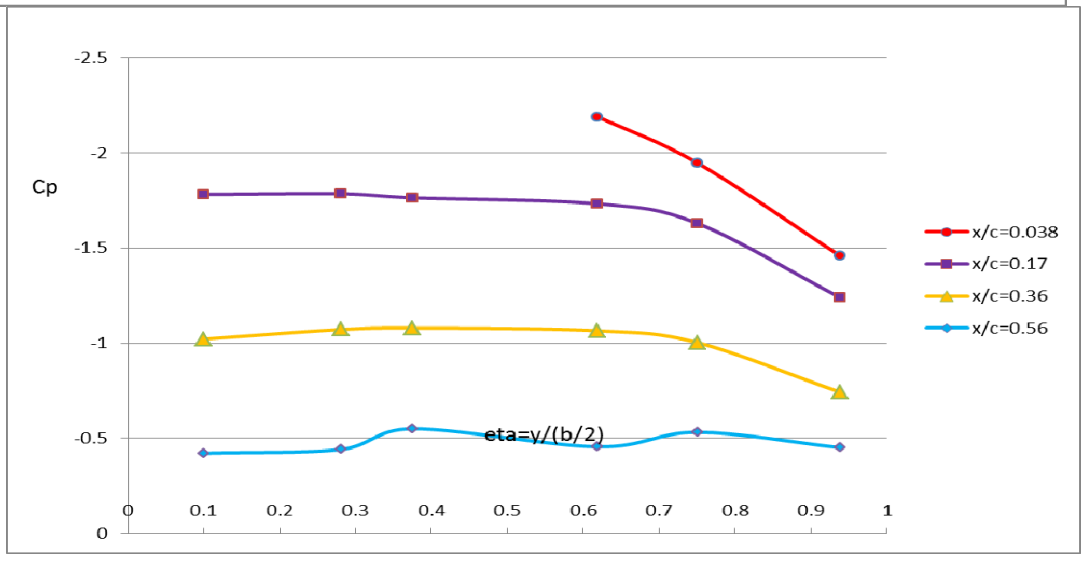

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

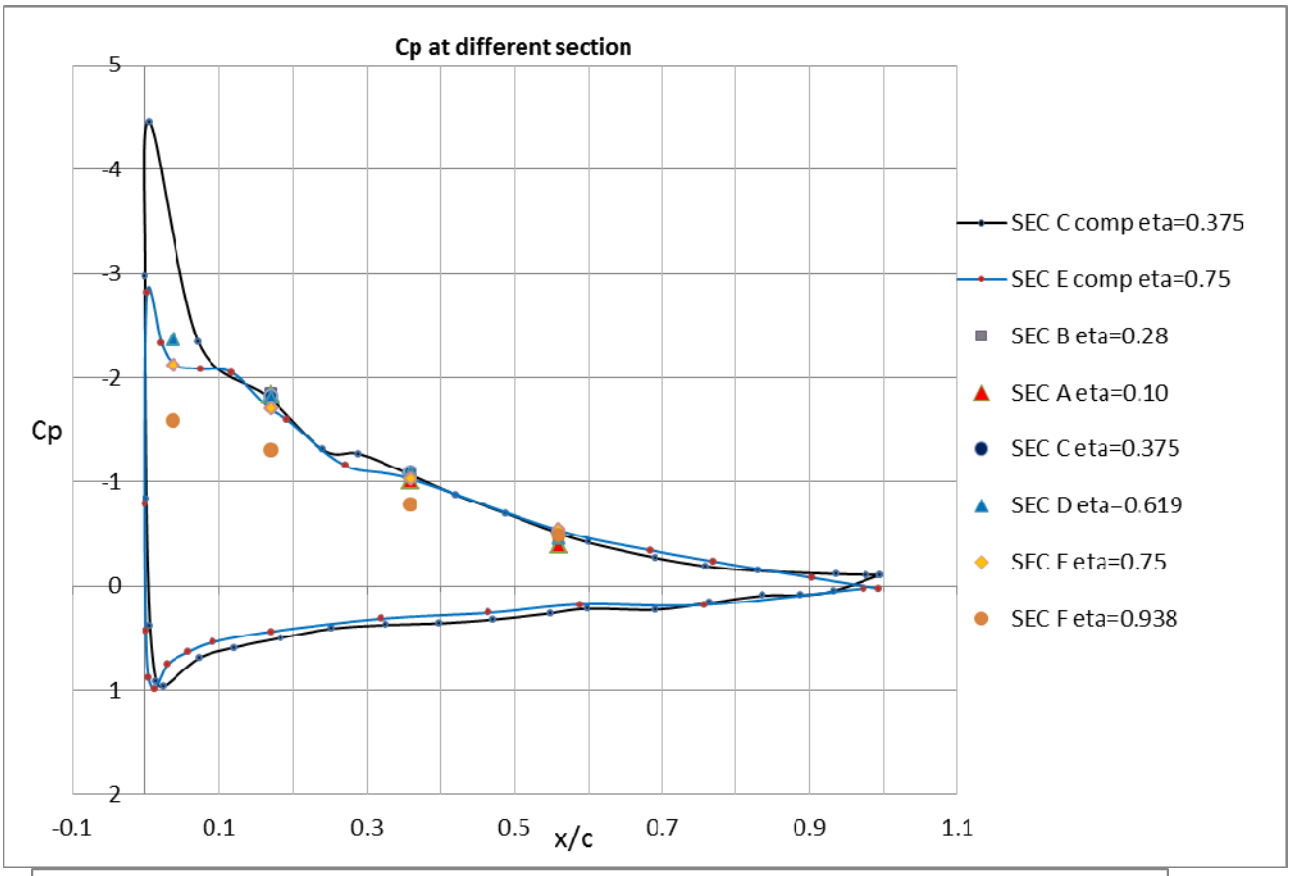
alpha_c= 12.47°

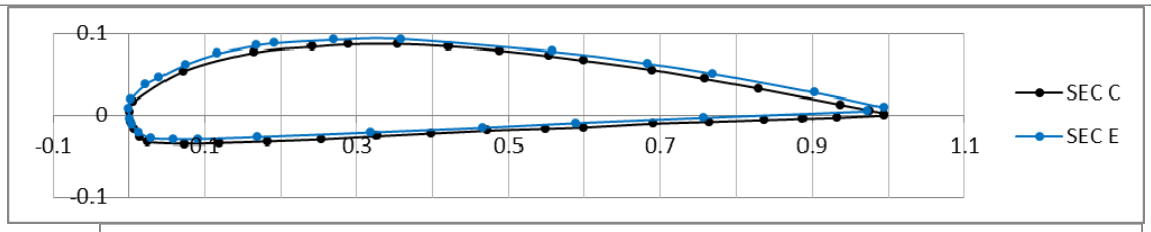

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

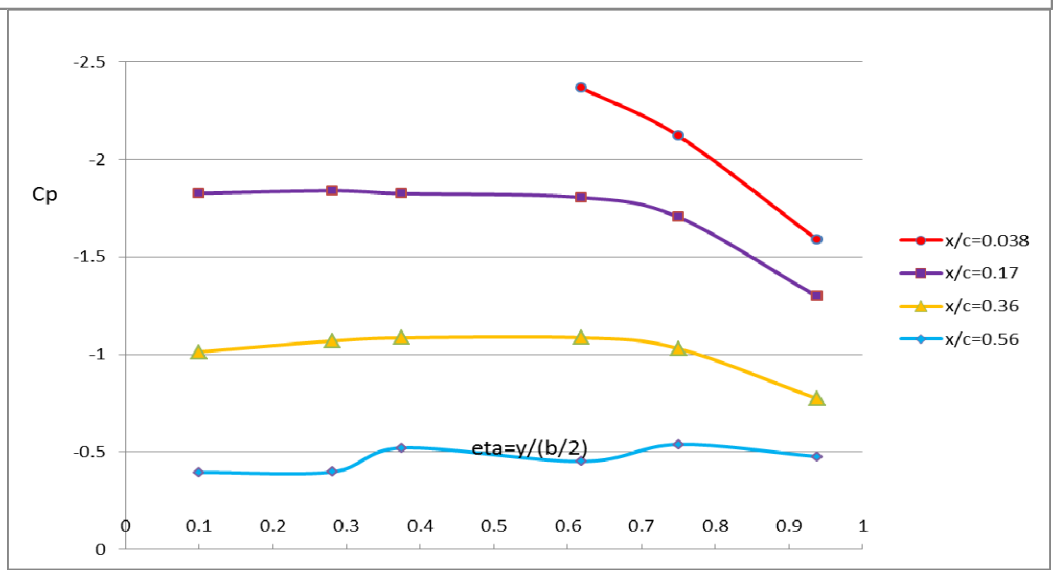

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

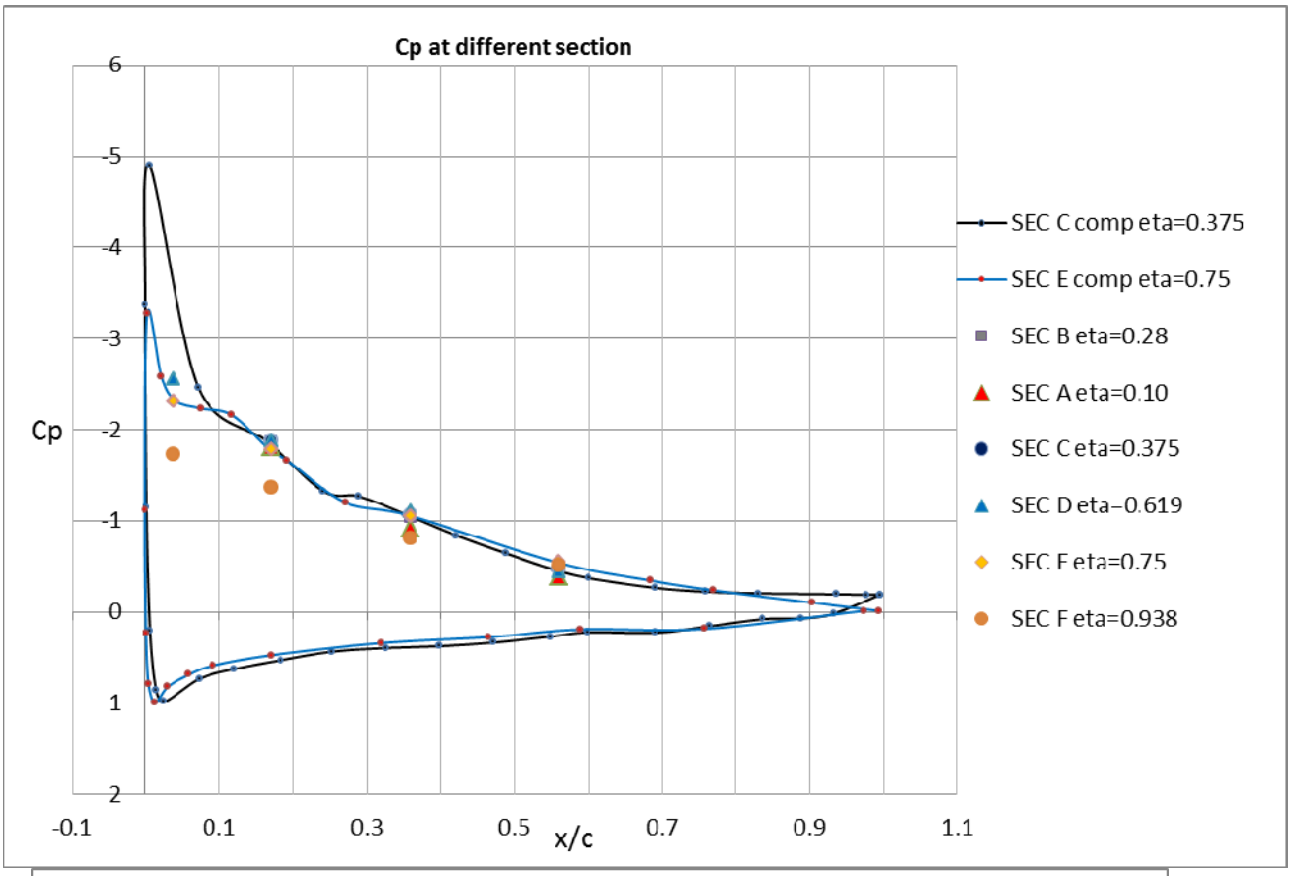
alpha_c= 13.43°

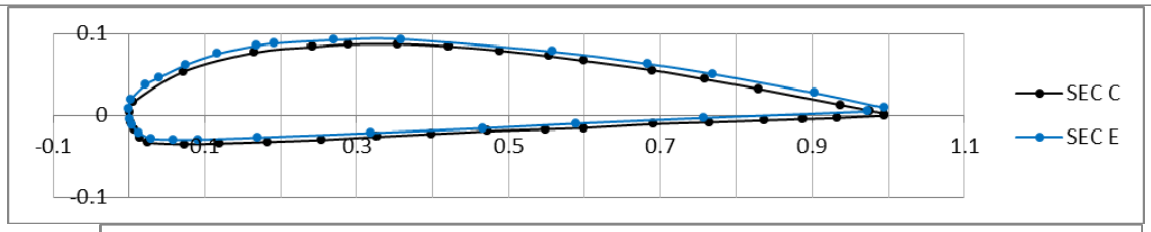

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

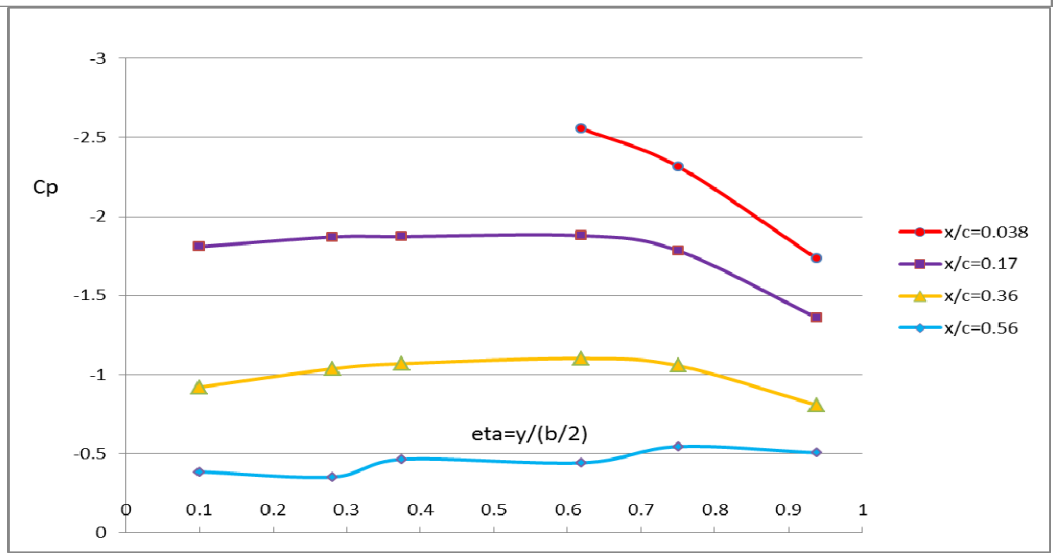

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

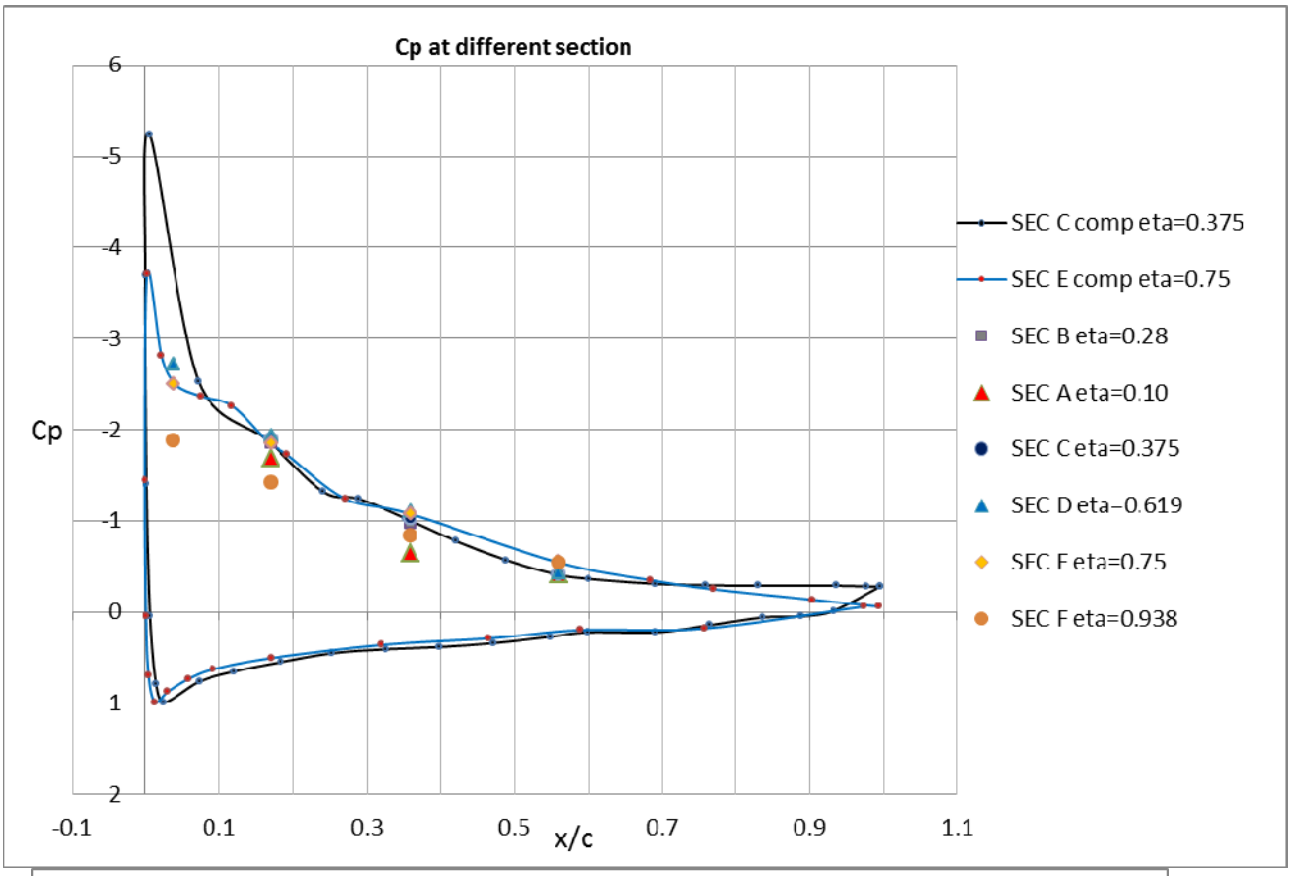
alpha_c= 14.54°

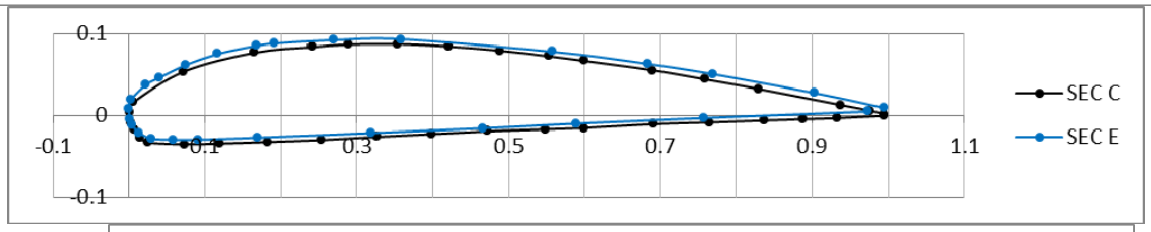

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

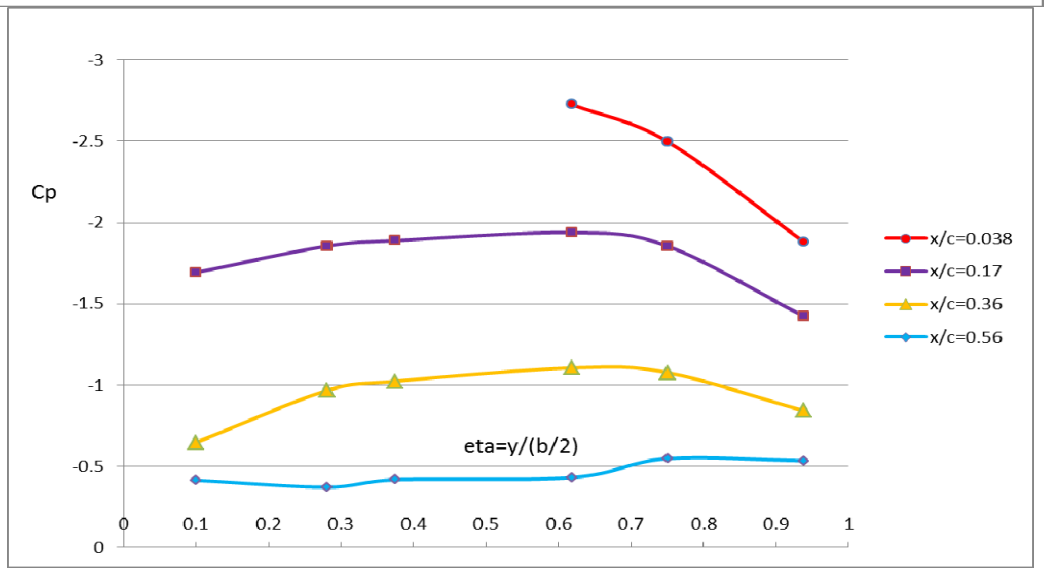

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

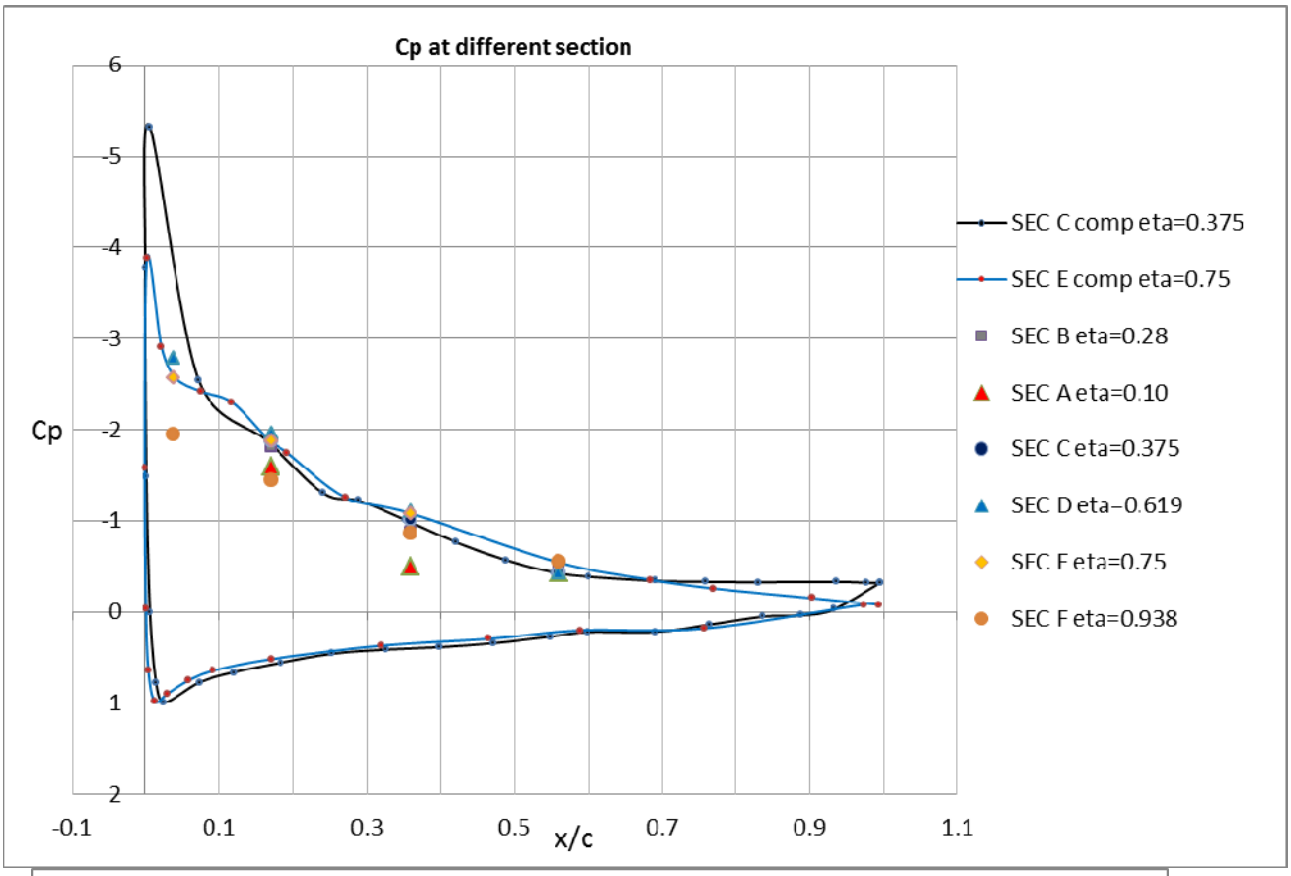
alpha_c= 15.62°

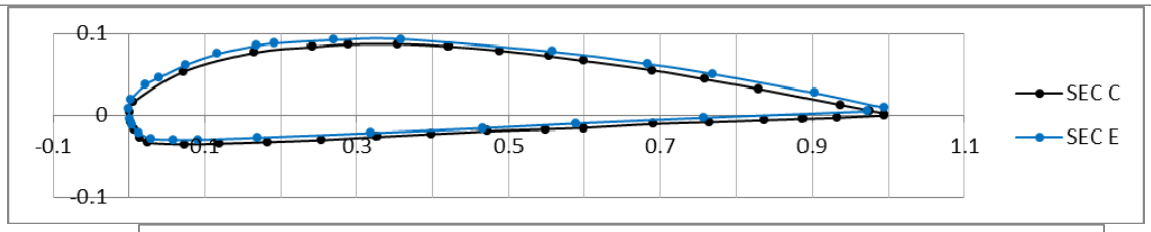

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

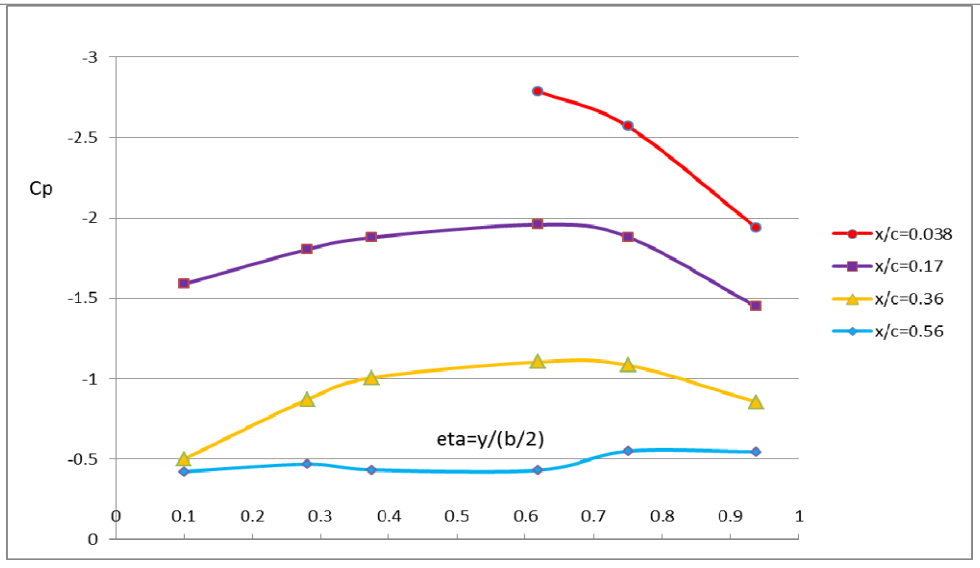

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

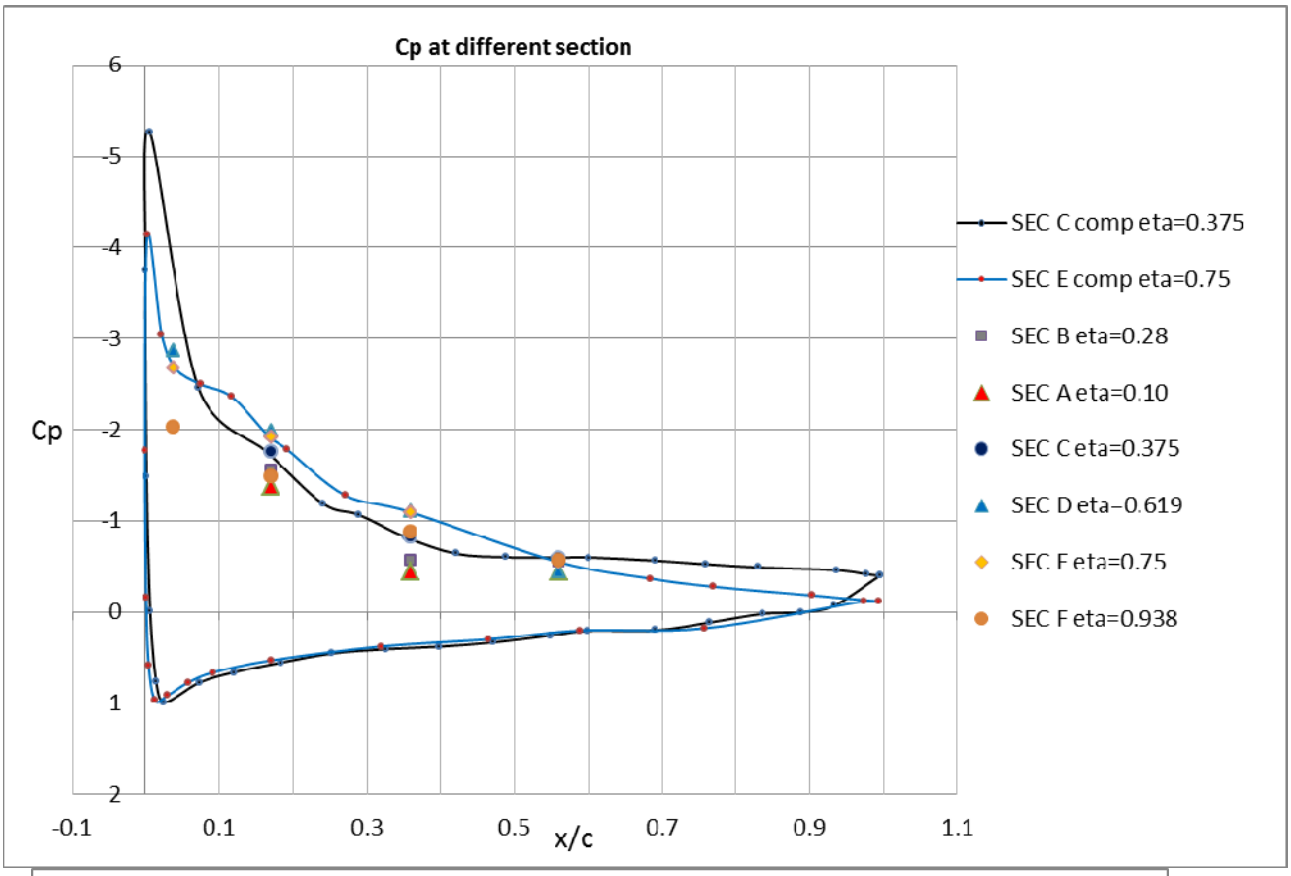
alpha_c= 16.06°

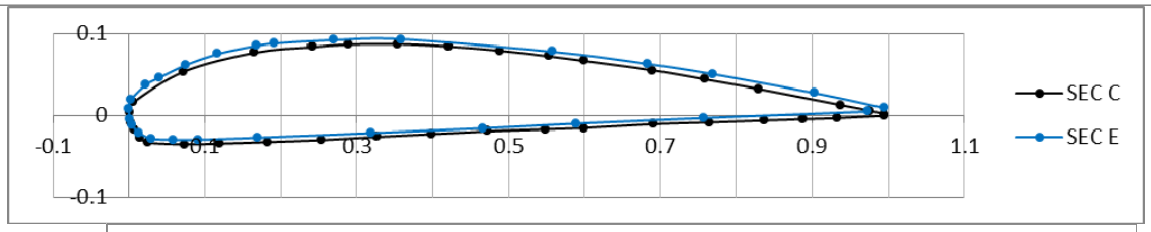

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

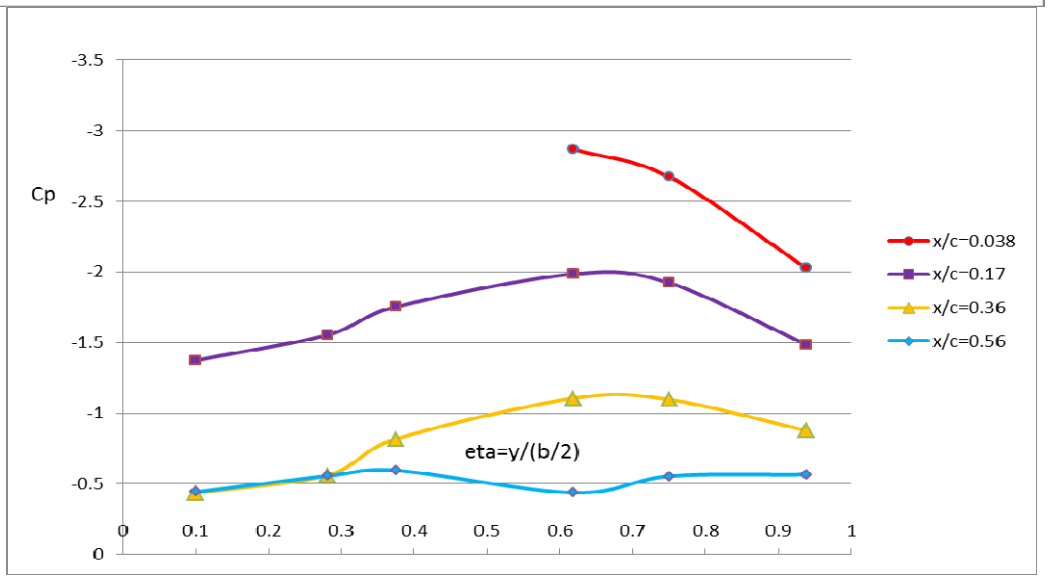

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

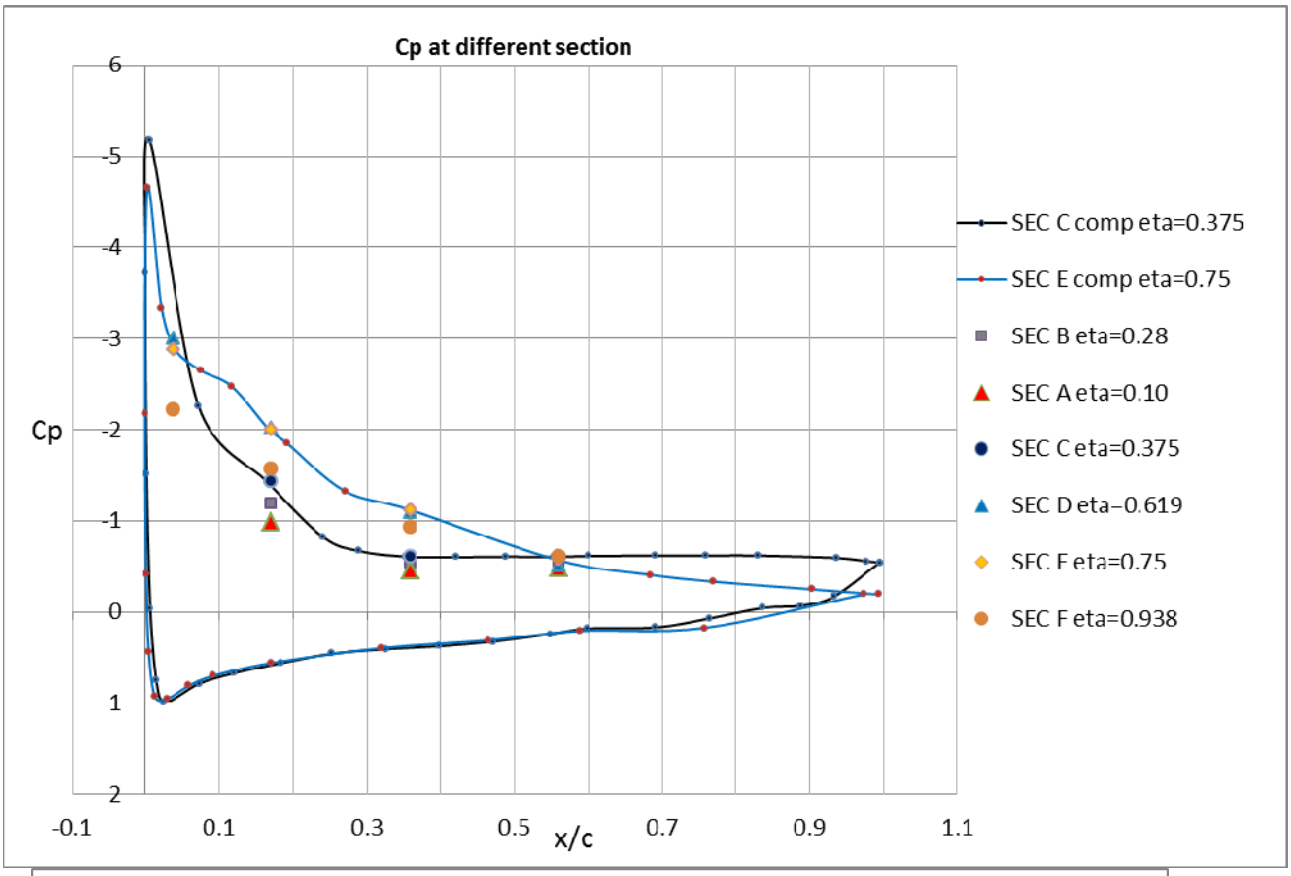
alpha_c= 16.70°

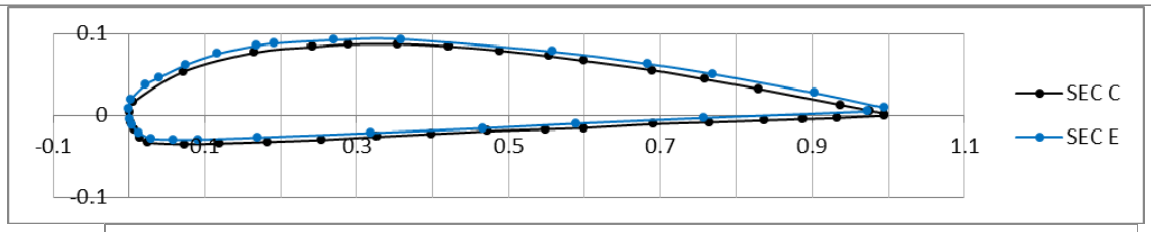

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

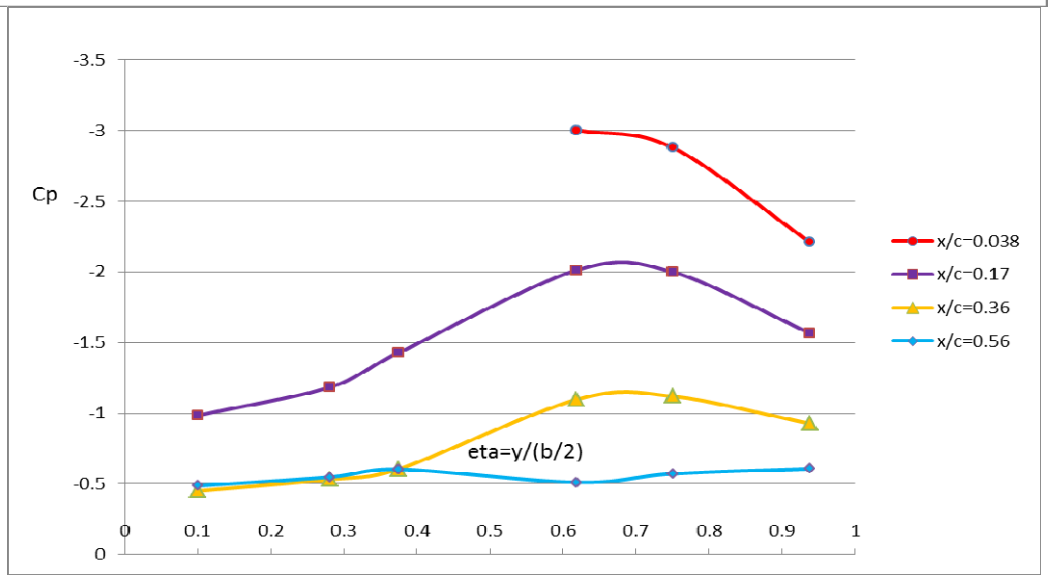

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

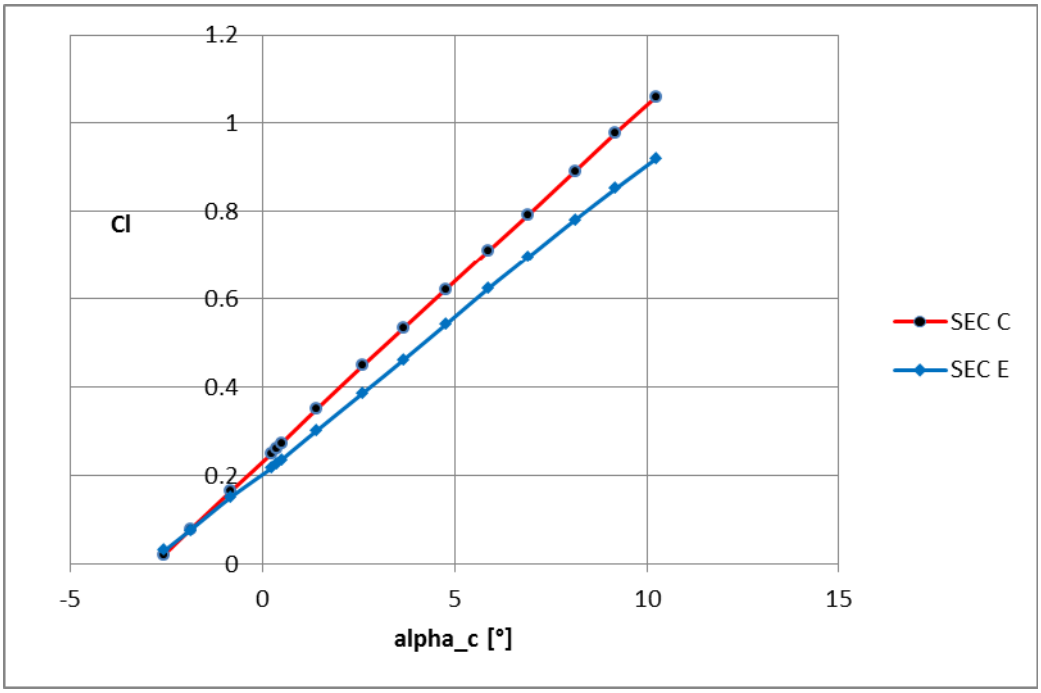
alpha_c= 17.98°


Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

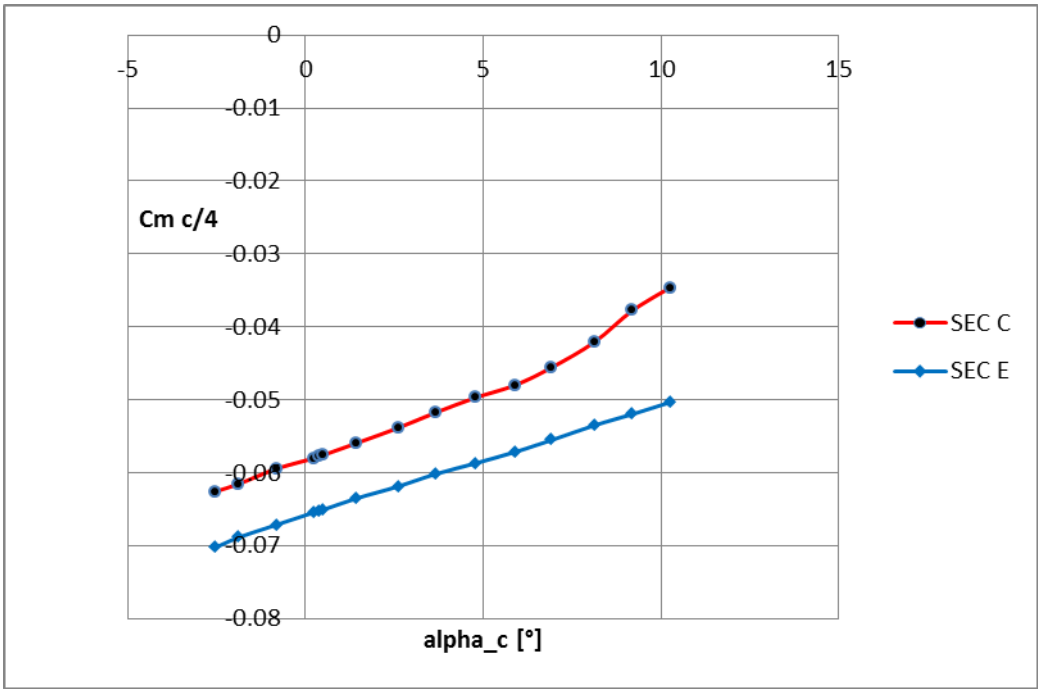

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

6.2.4 TEST T35: V=35 m/s, transition trips at x/c = 0.014

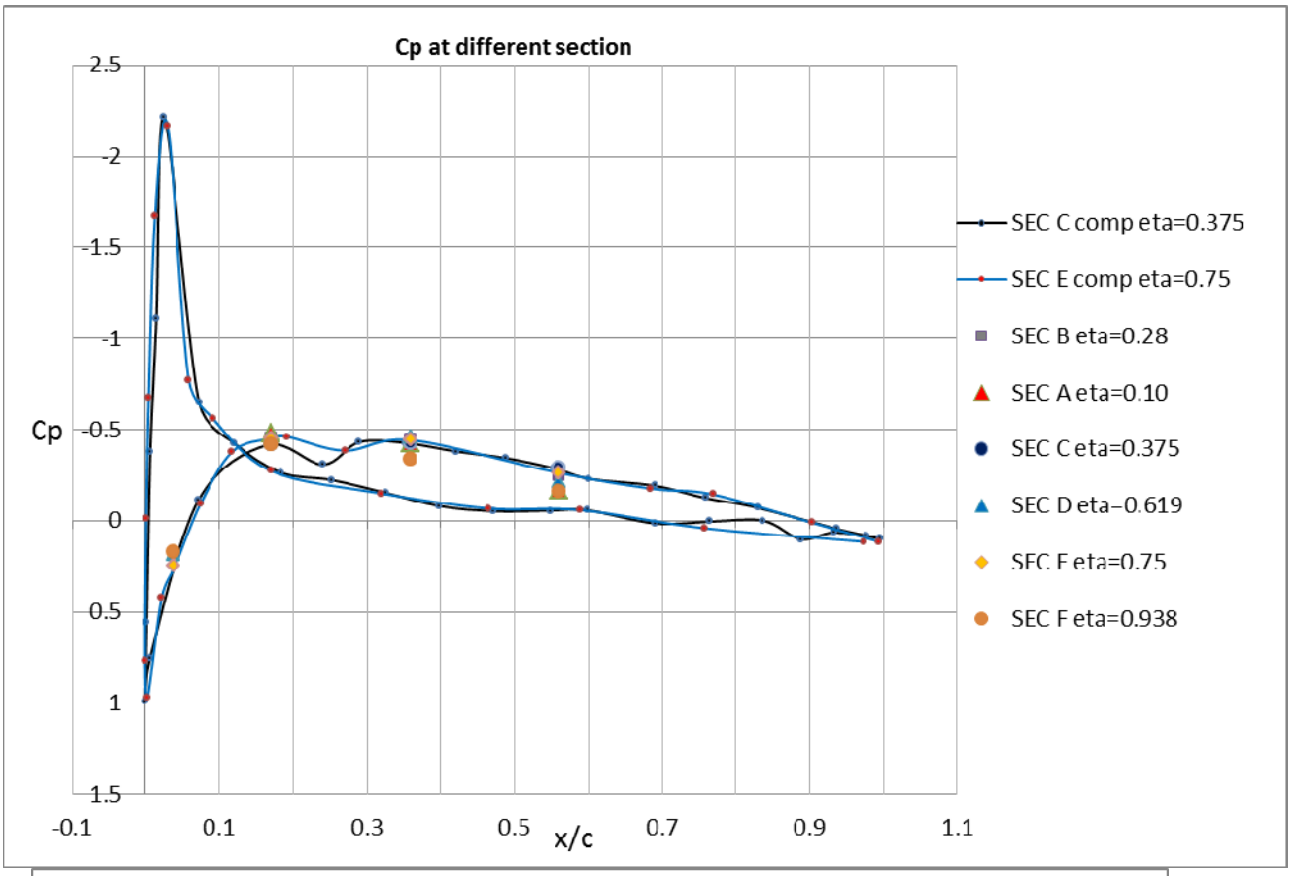


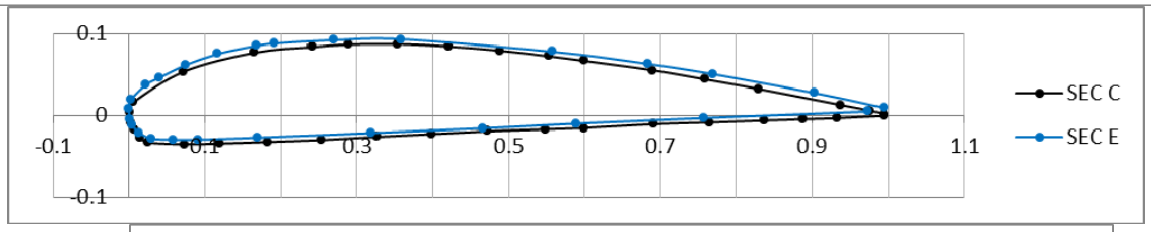
2-D Aerodynamic lift coefficient (corrected for solid block) Cl extracted from pressure distribution

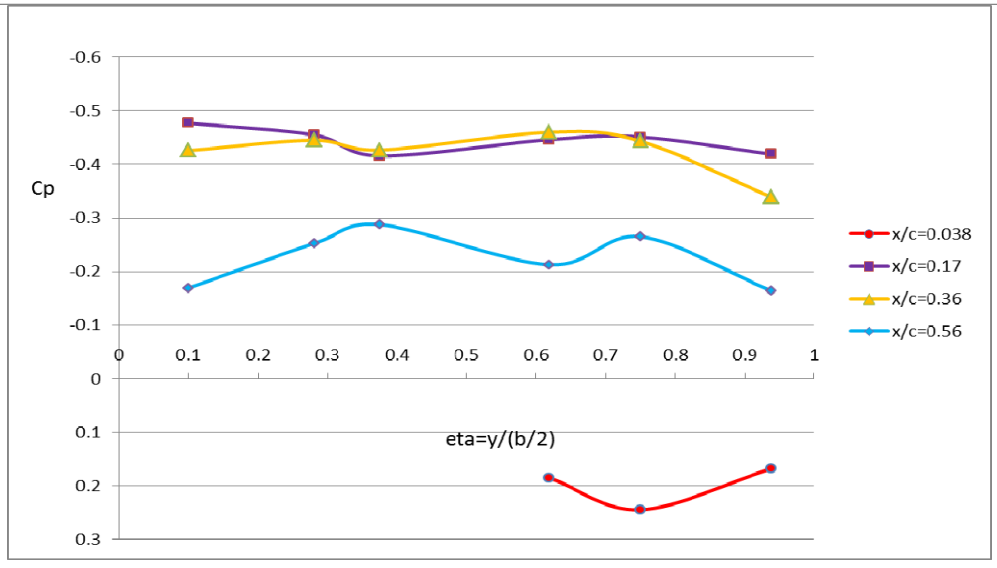


2-D Aerodynamic moment coefficient r.t.25% chord (corrected for solid block) extracted from pressure distribution

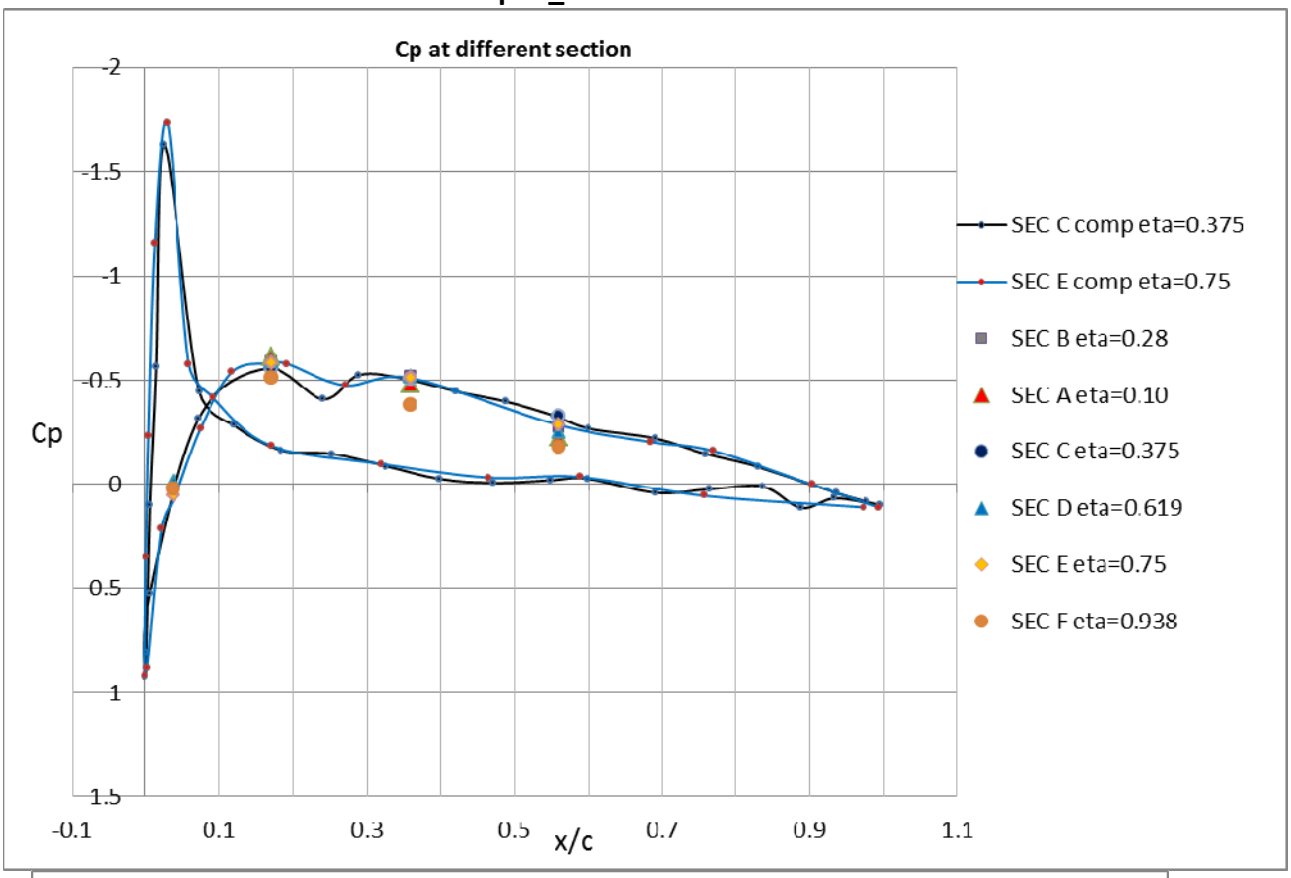
alpha_c=-2.55°

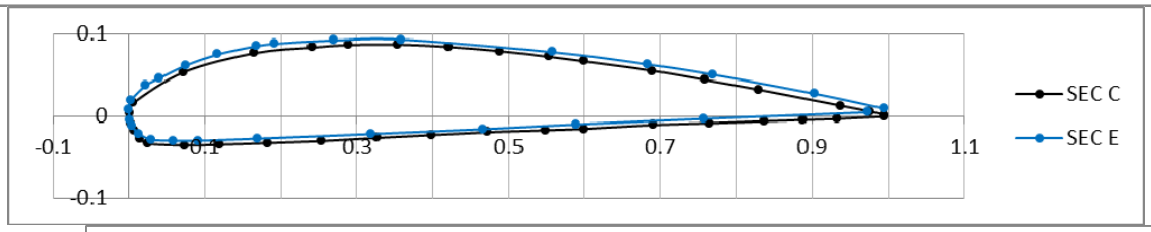

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

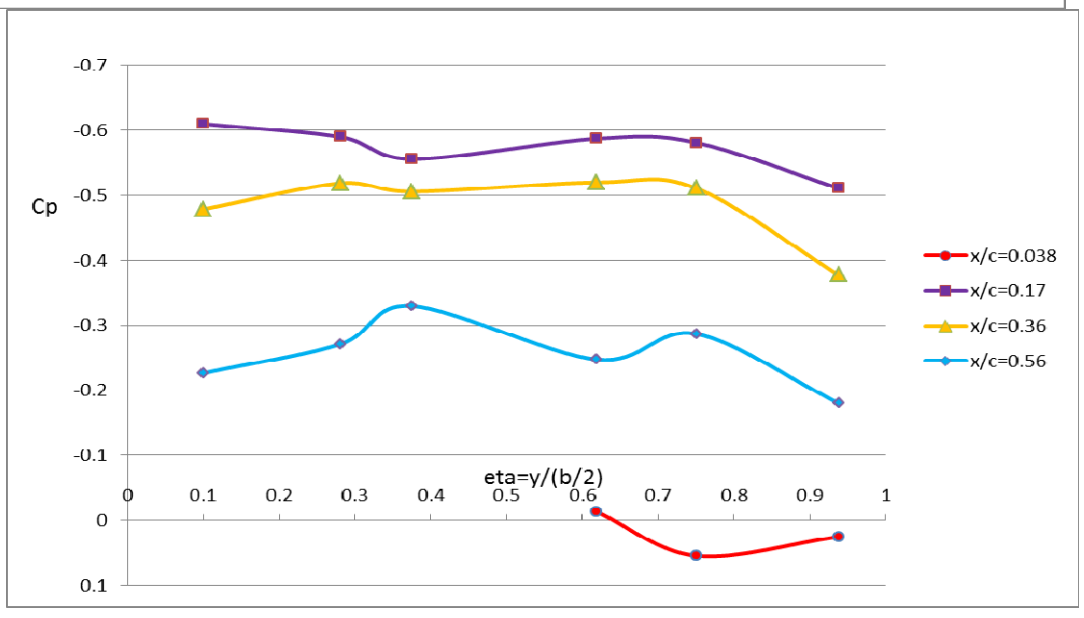

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

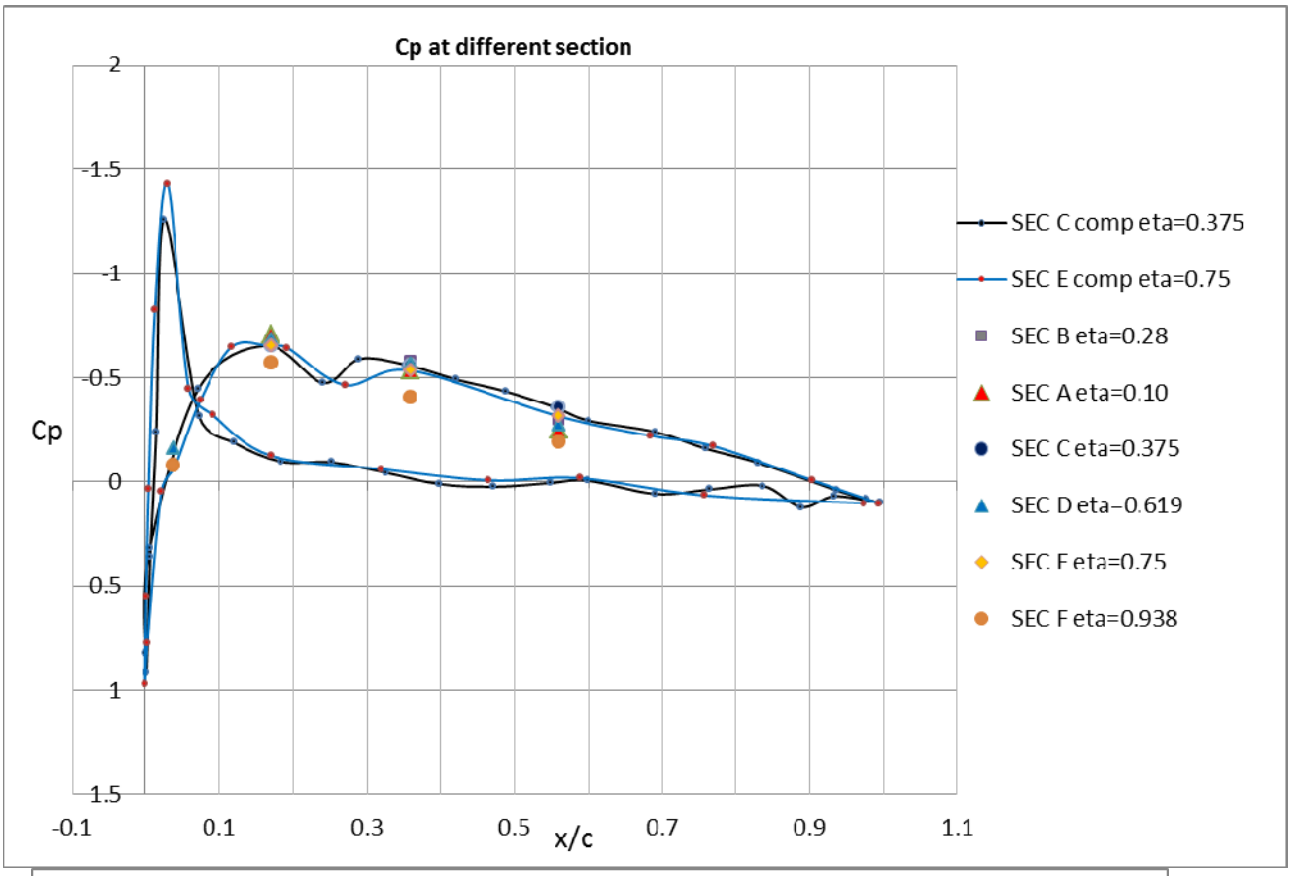
alpha_c= -0.82°

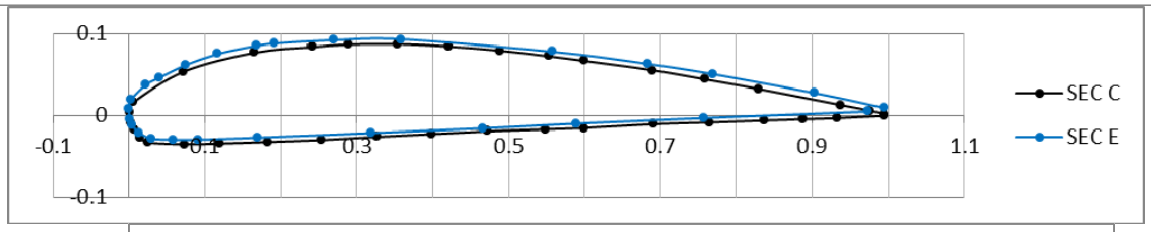

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC E eta=0.75
SEC F eta=0.938

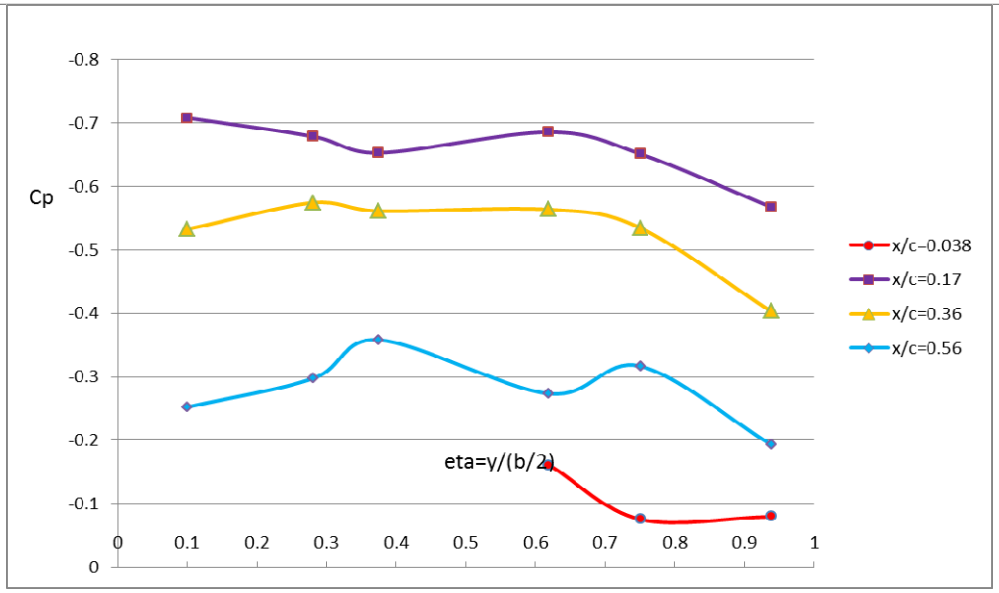

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

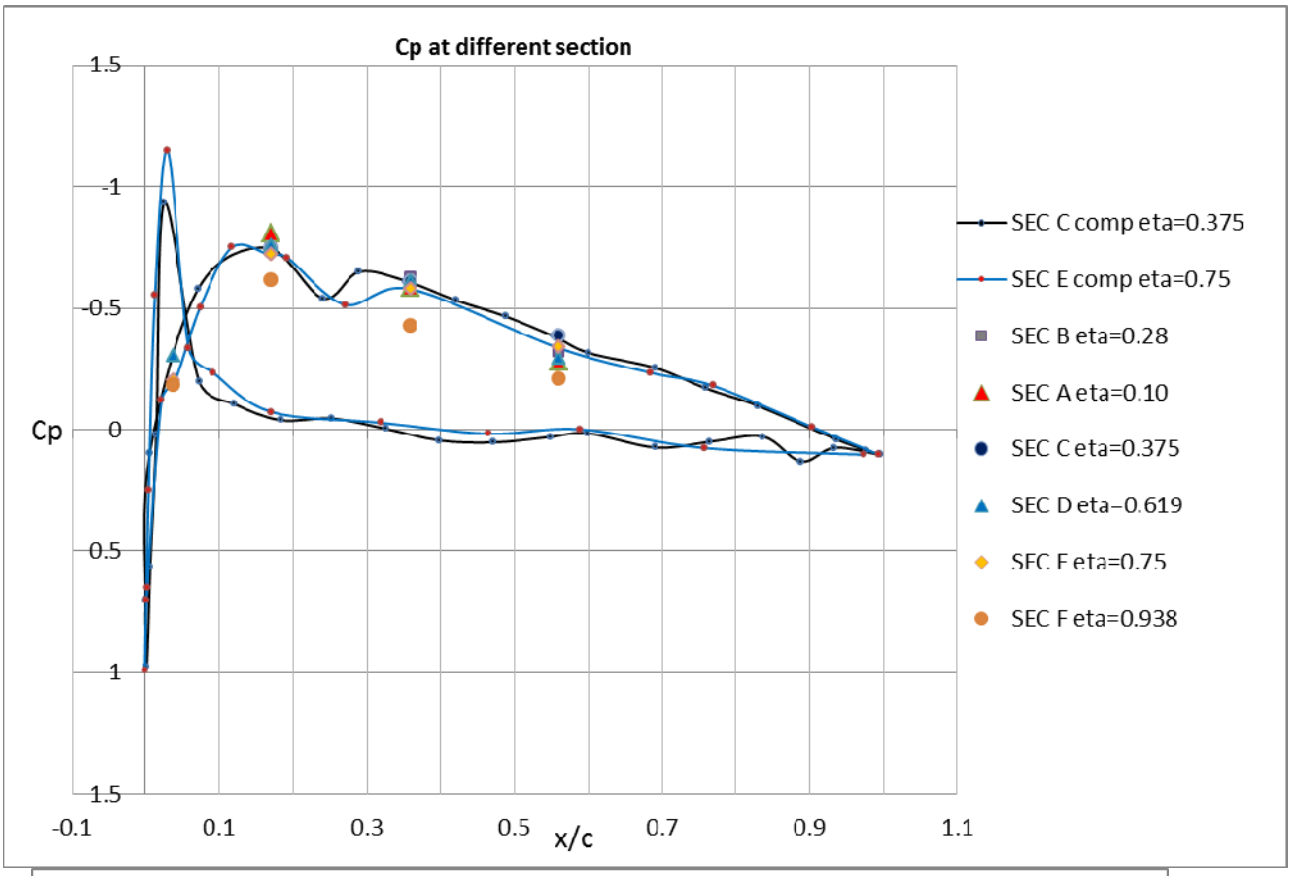
alpha_c= 0.37°

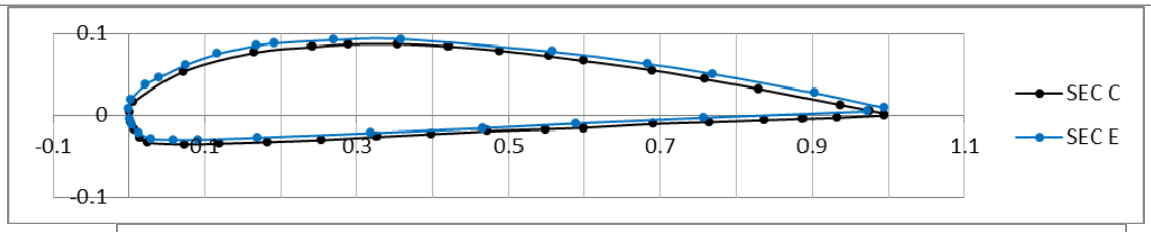

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

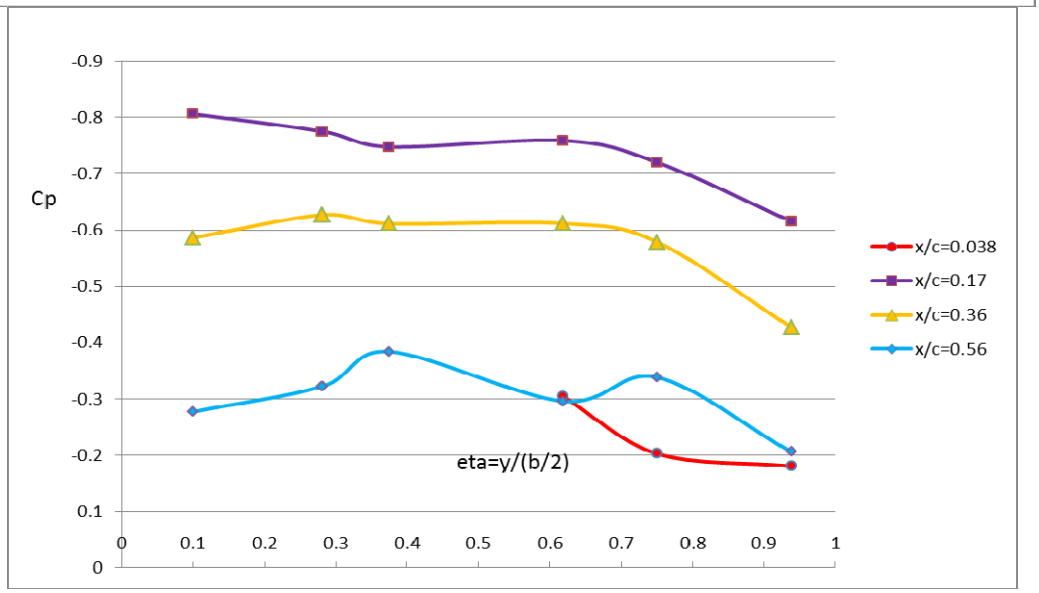

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

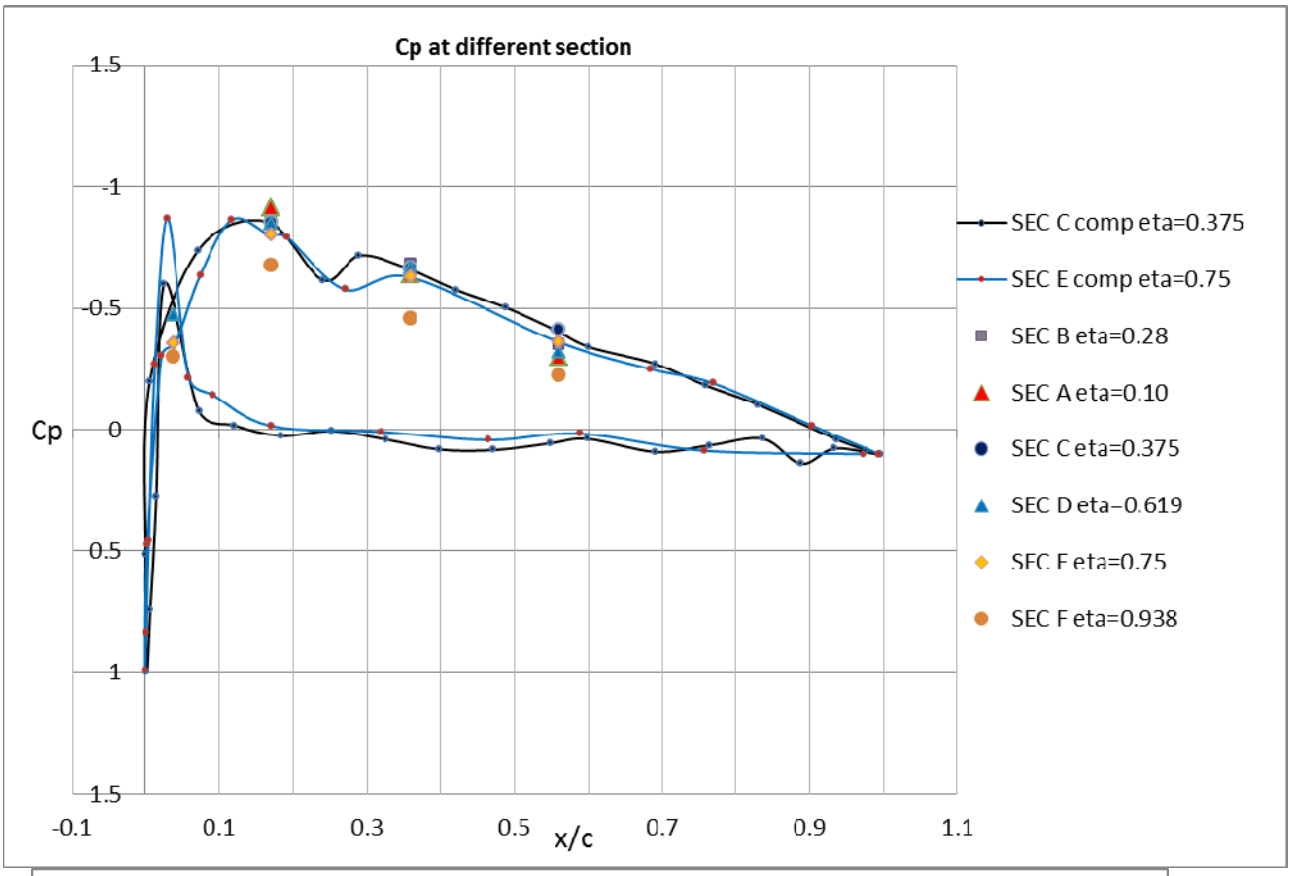
alpha_c= 1.41°

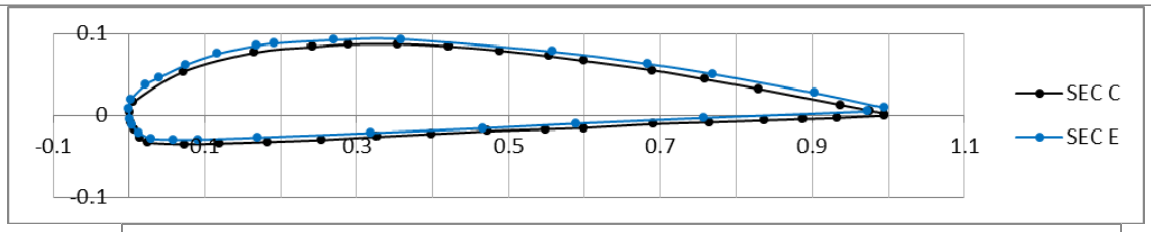

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

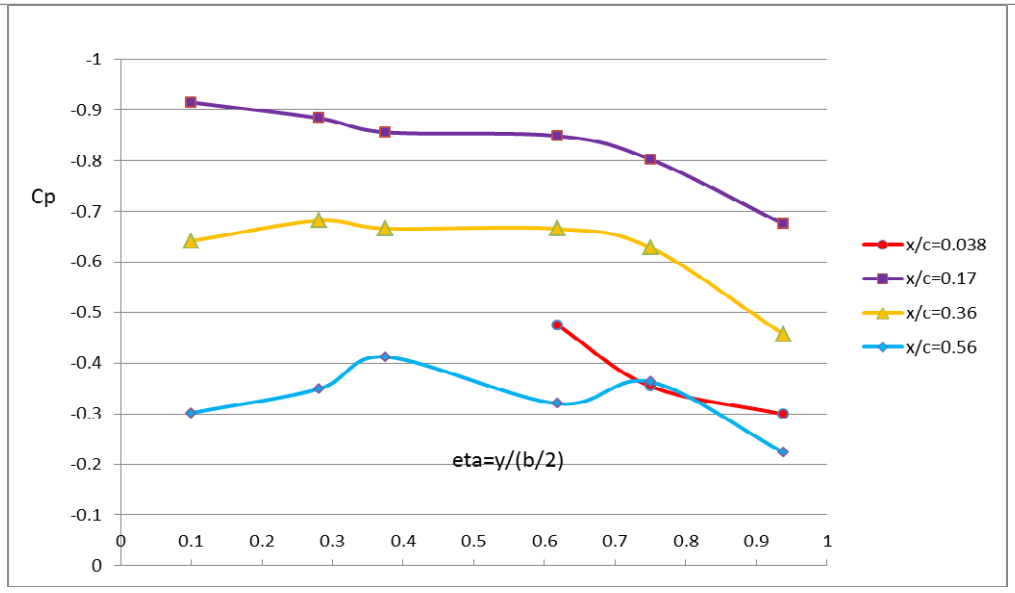

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

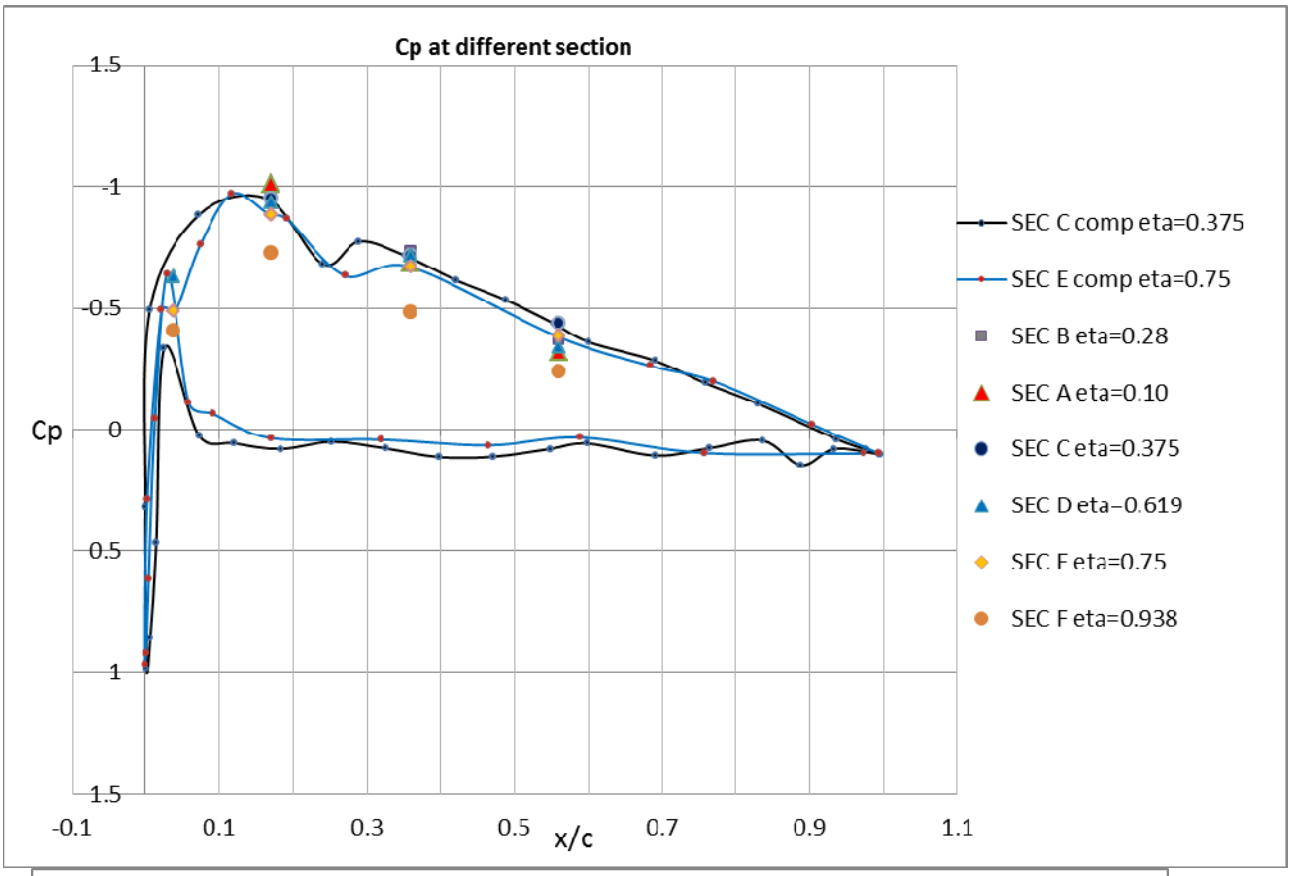
alpha_c= 2.61°

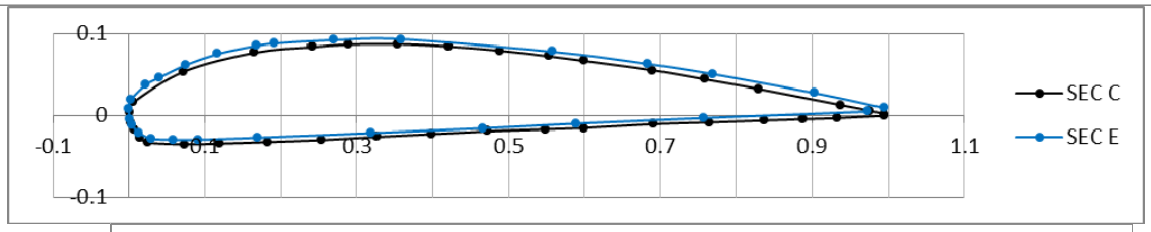

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

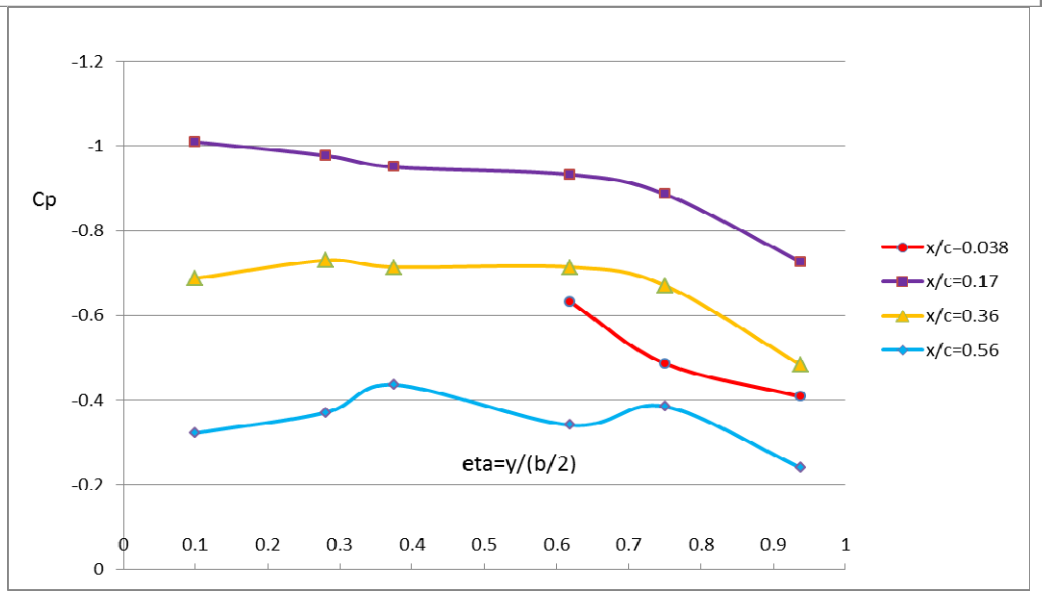

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

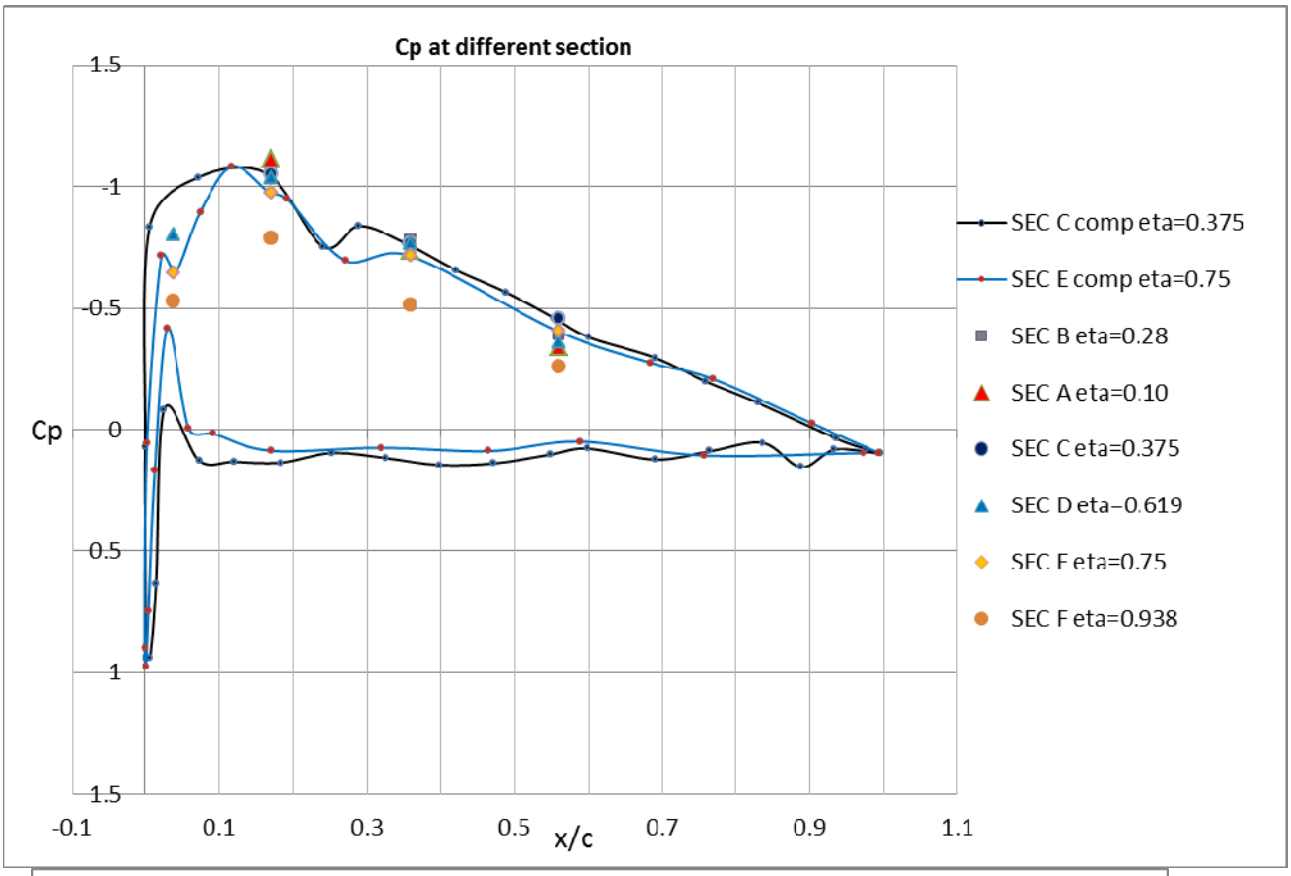
alpha_c= 3.66°

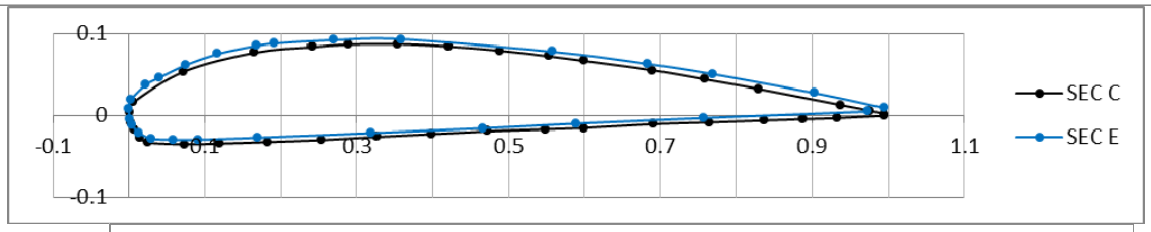

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

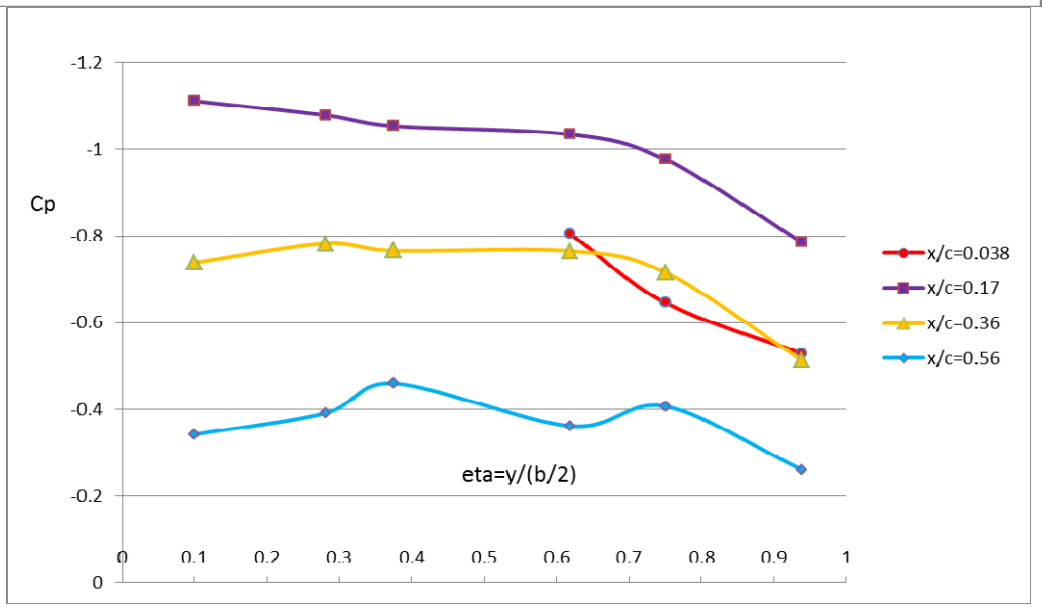

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

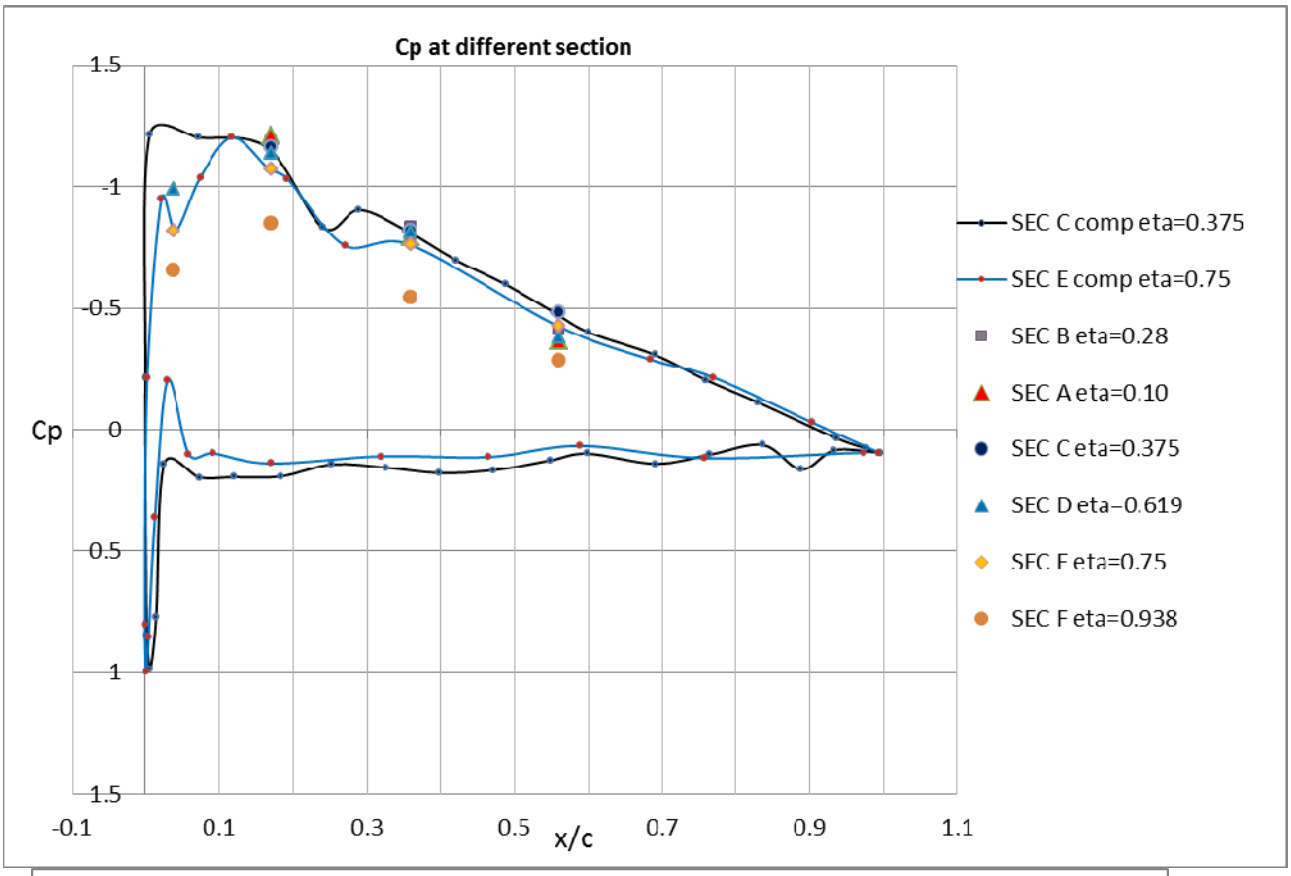
alpha_c= 4.77 °

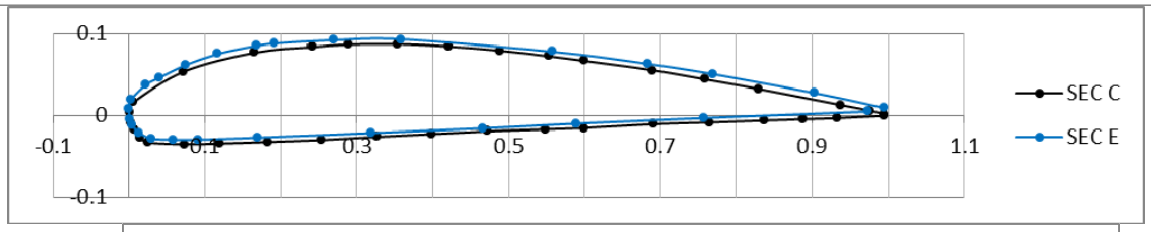

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

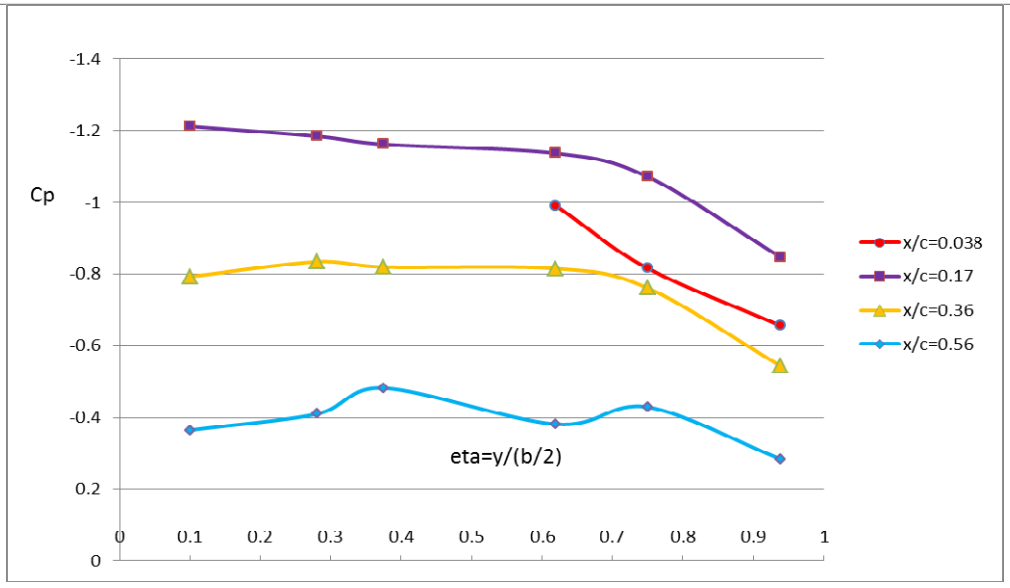

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

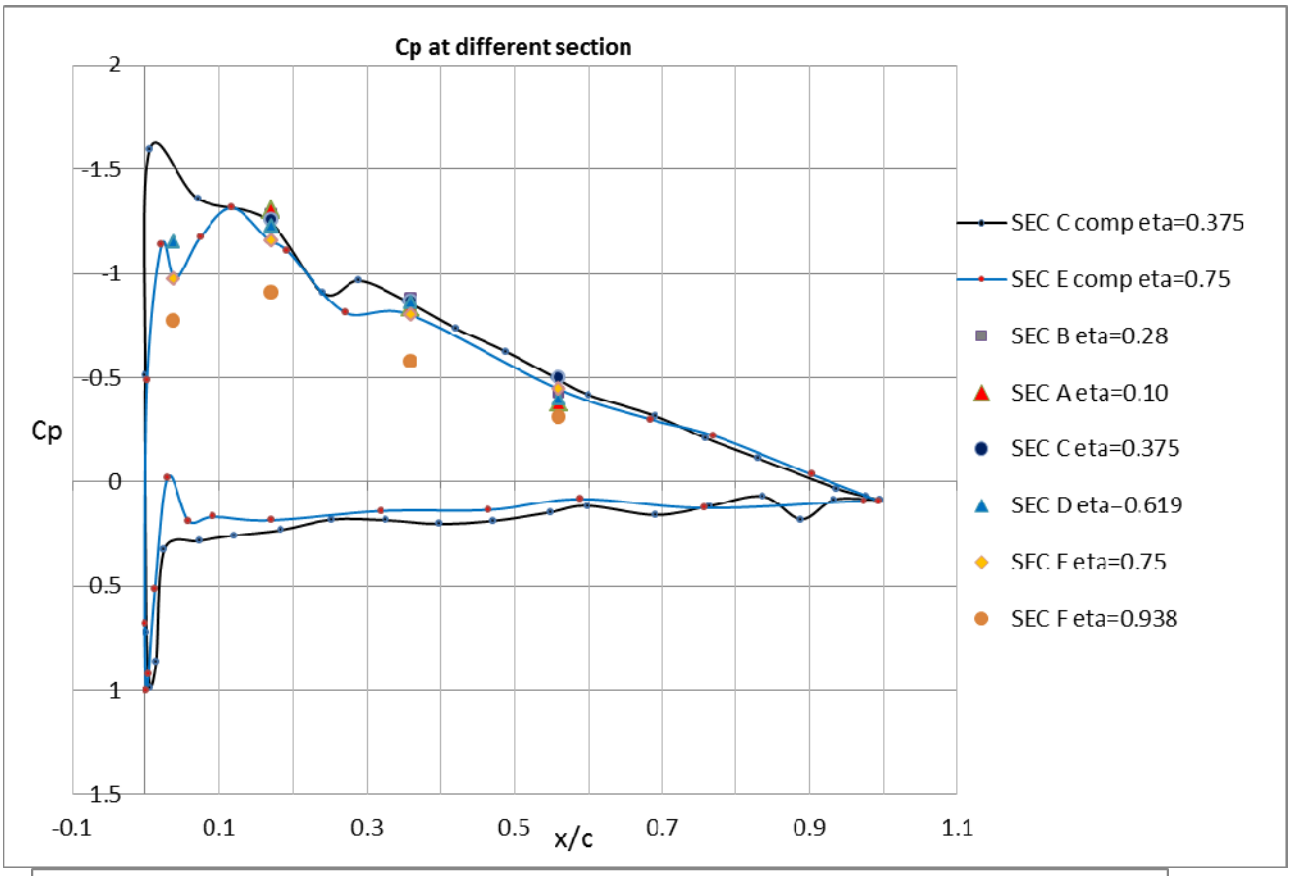
alpha_c= 5.88°

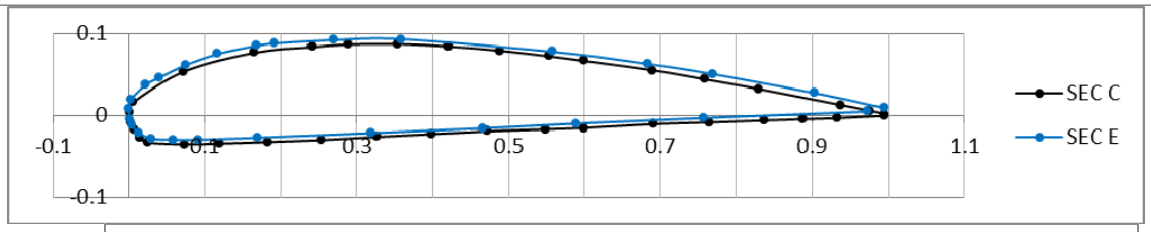

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

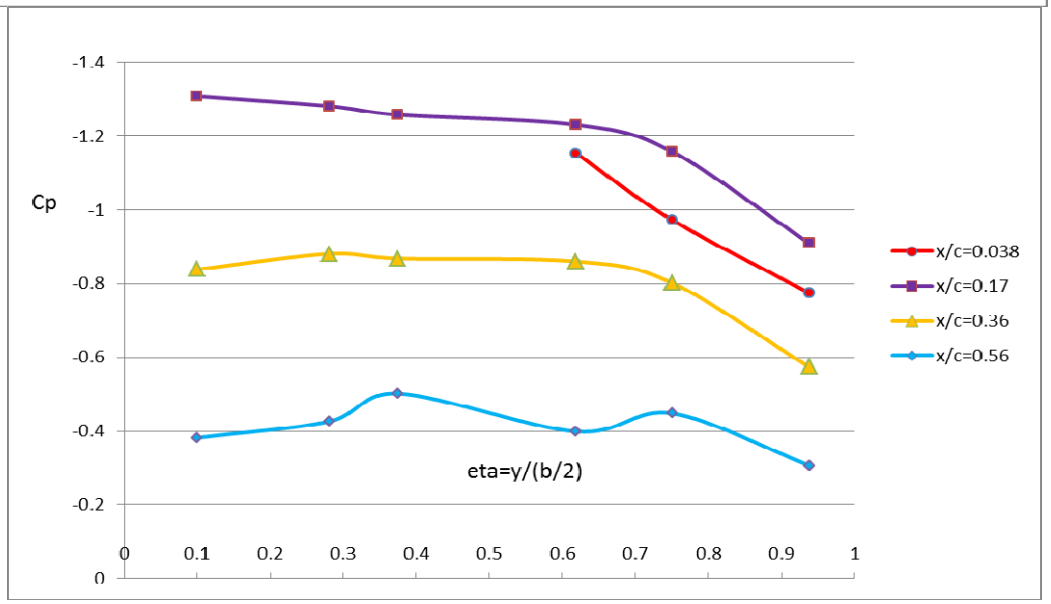

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

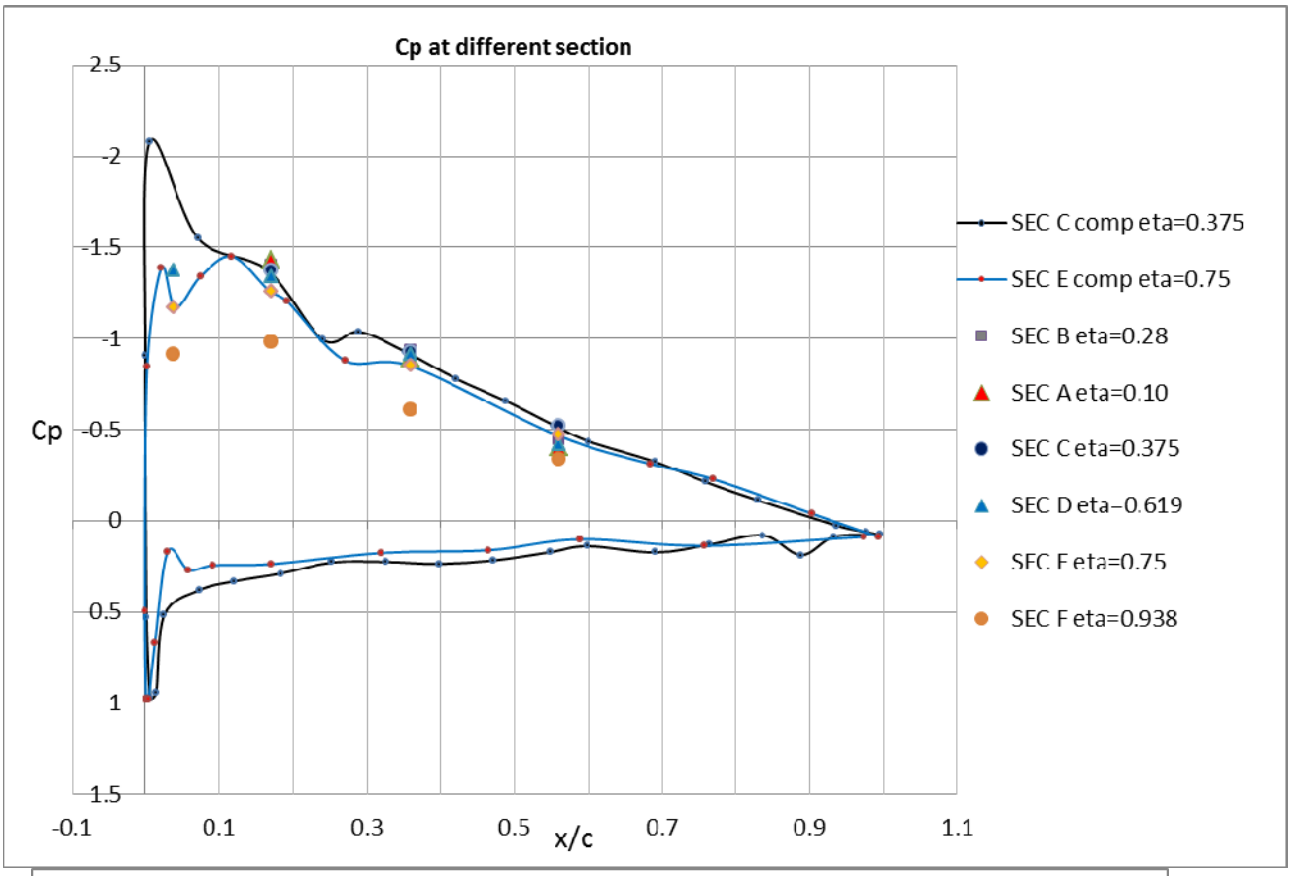
alpha_c= 6.92°

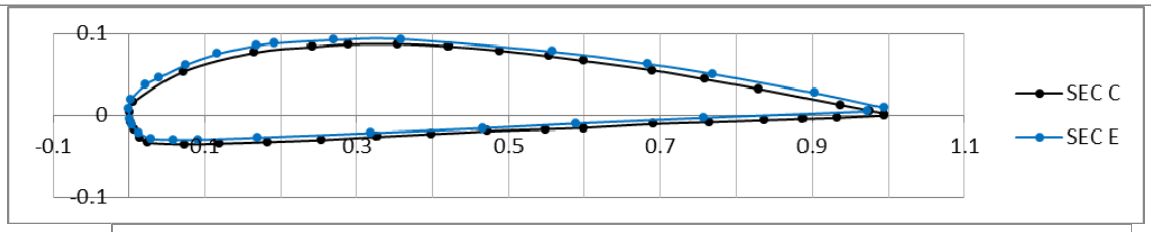

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

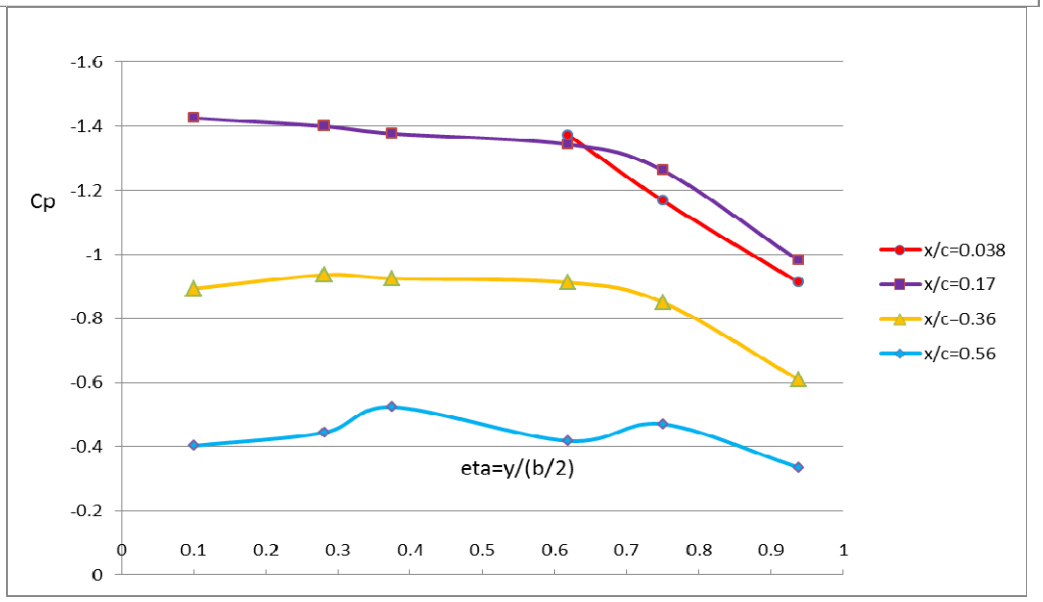

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

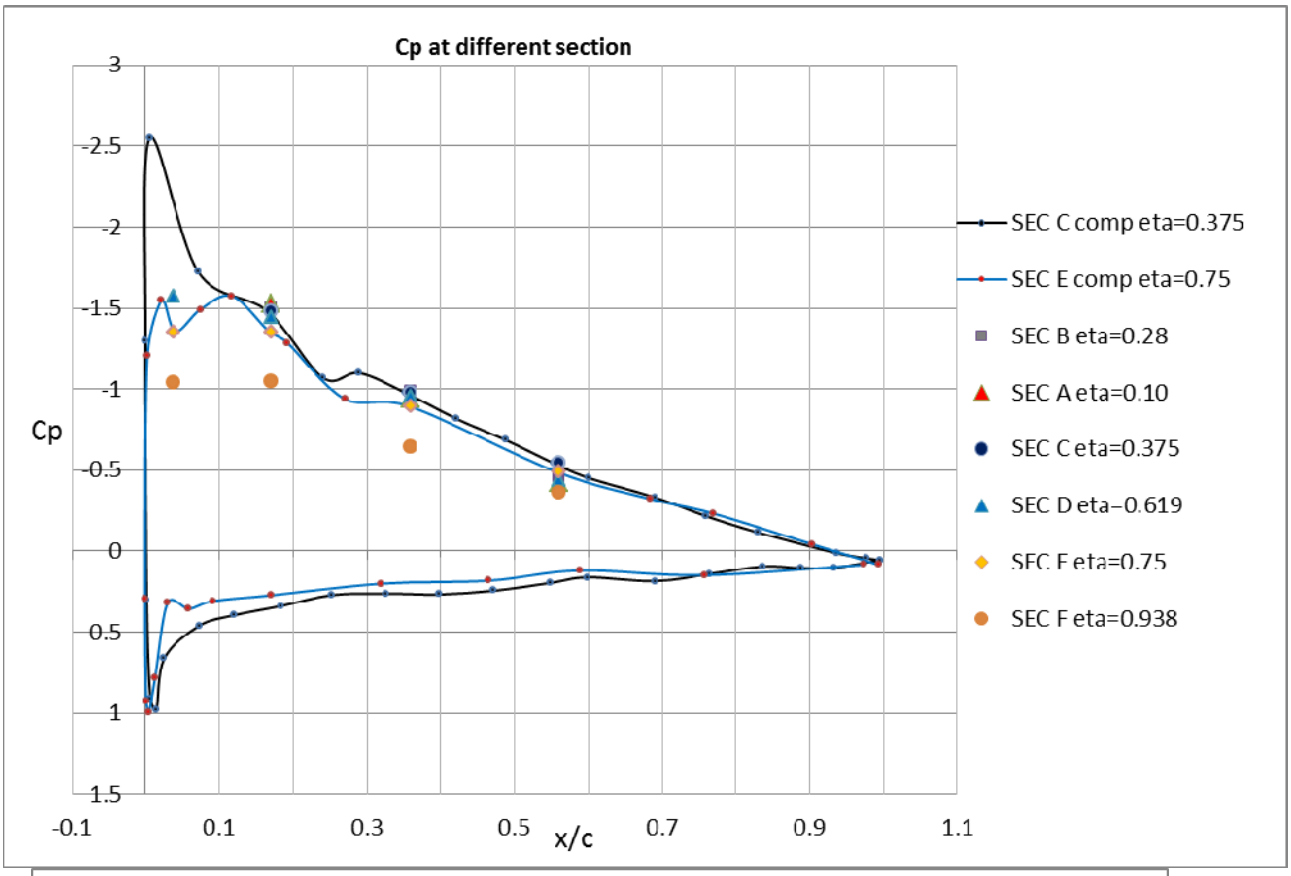
alpha_c= 8.13 °

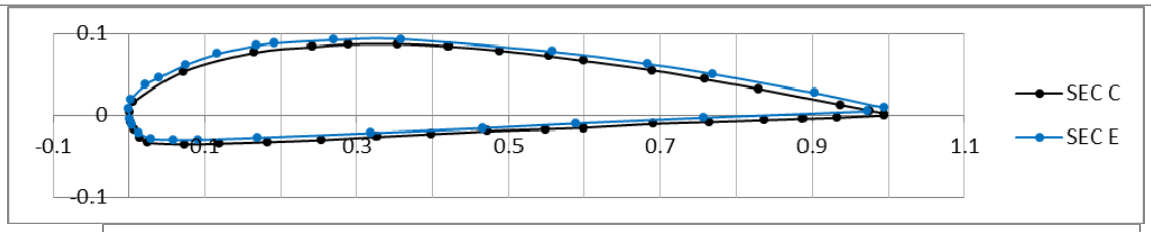

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

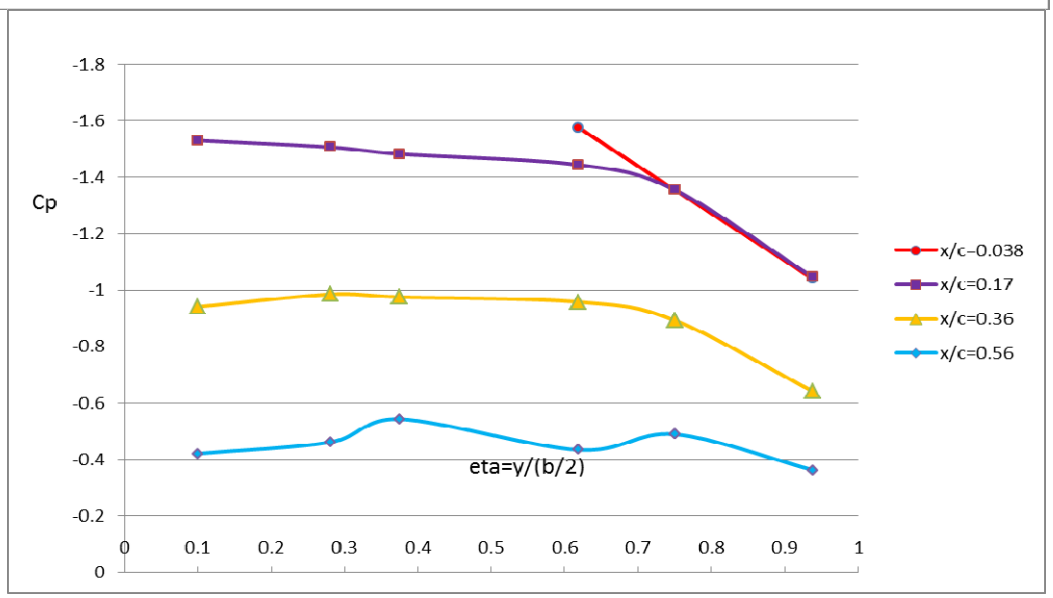

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

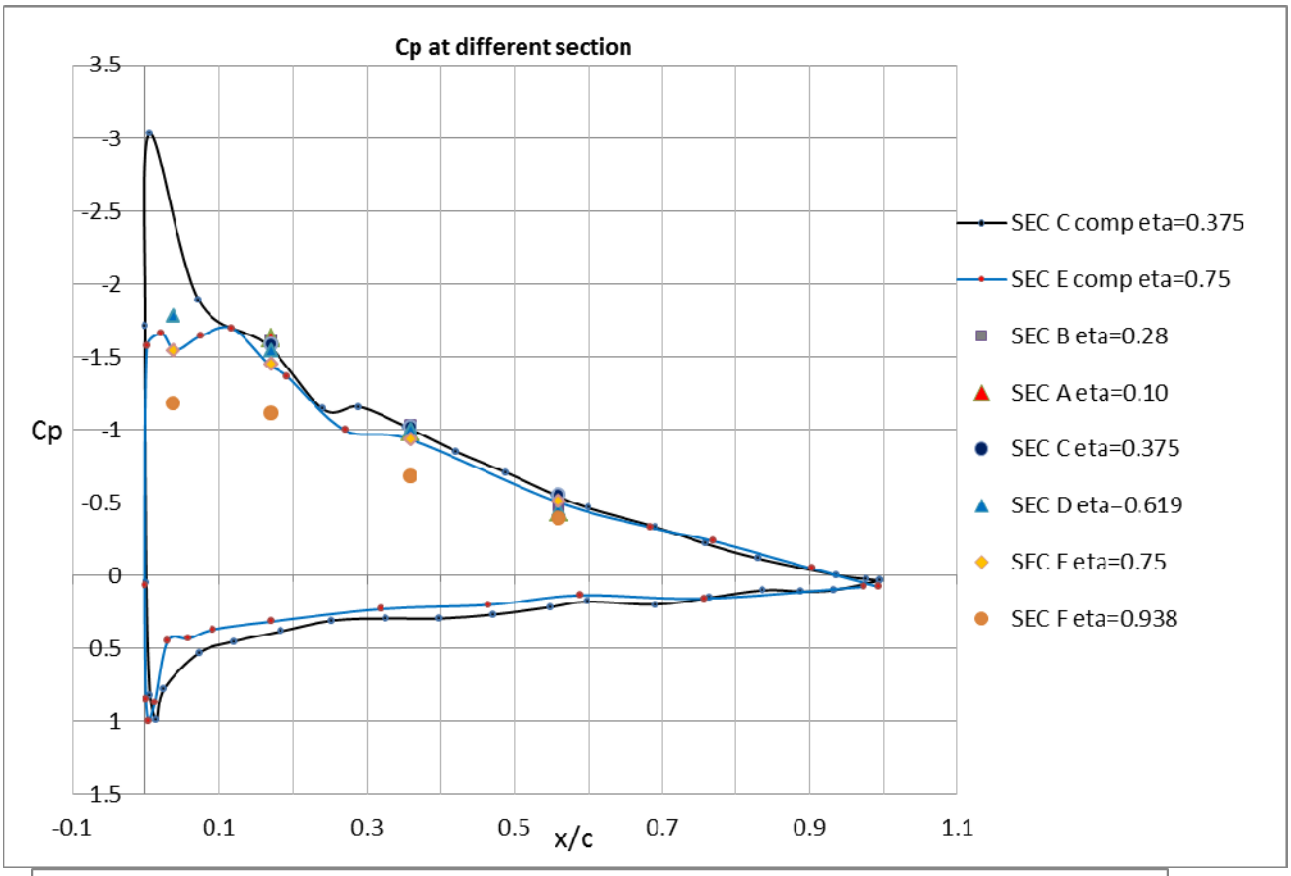
alpha_c= 9.19°

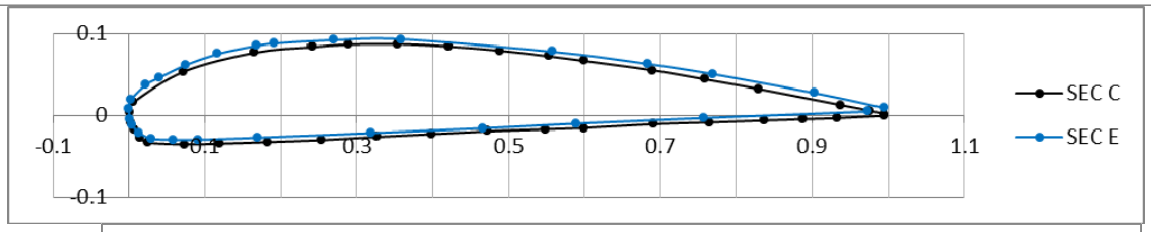

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

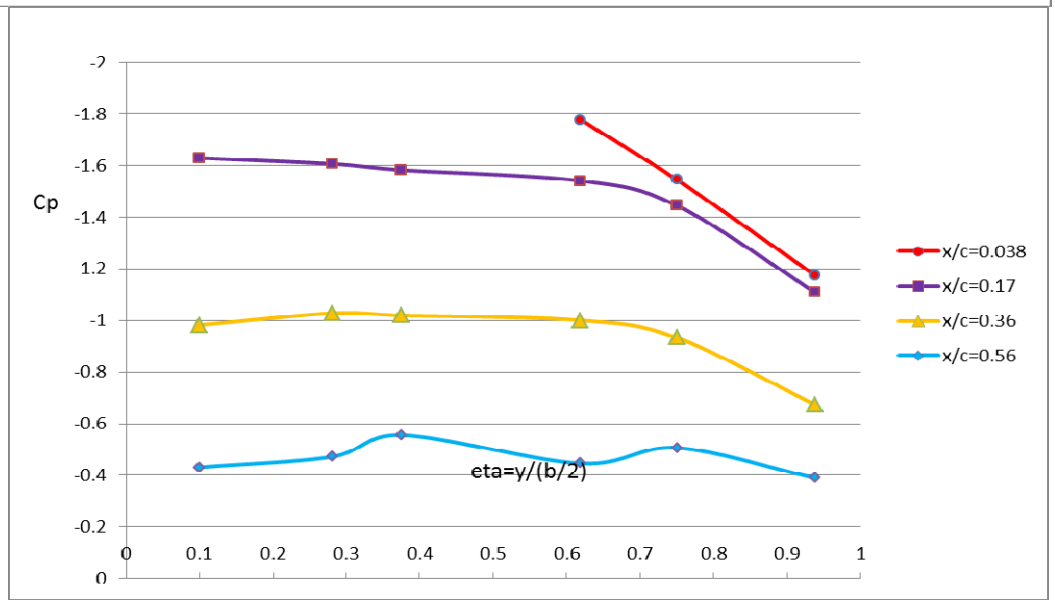

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

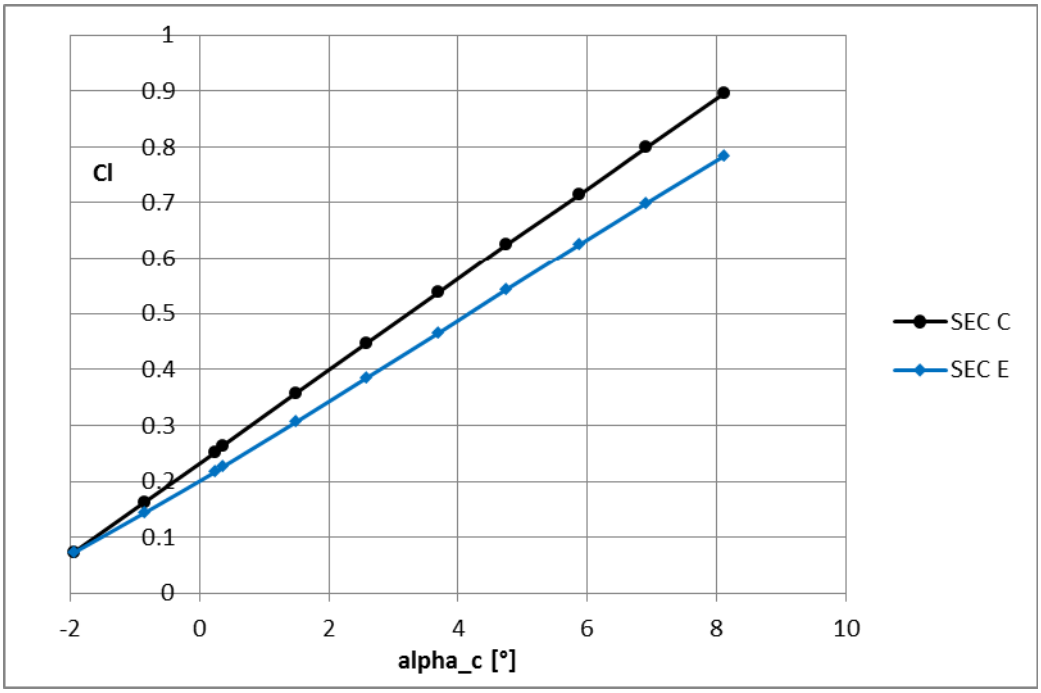
alpha_c= 10.25 °


Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

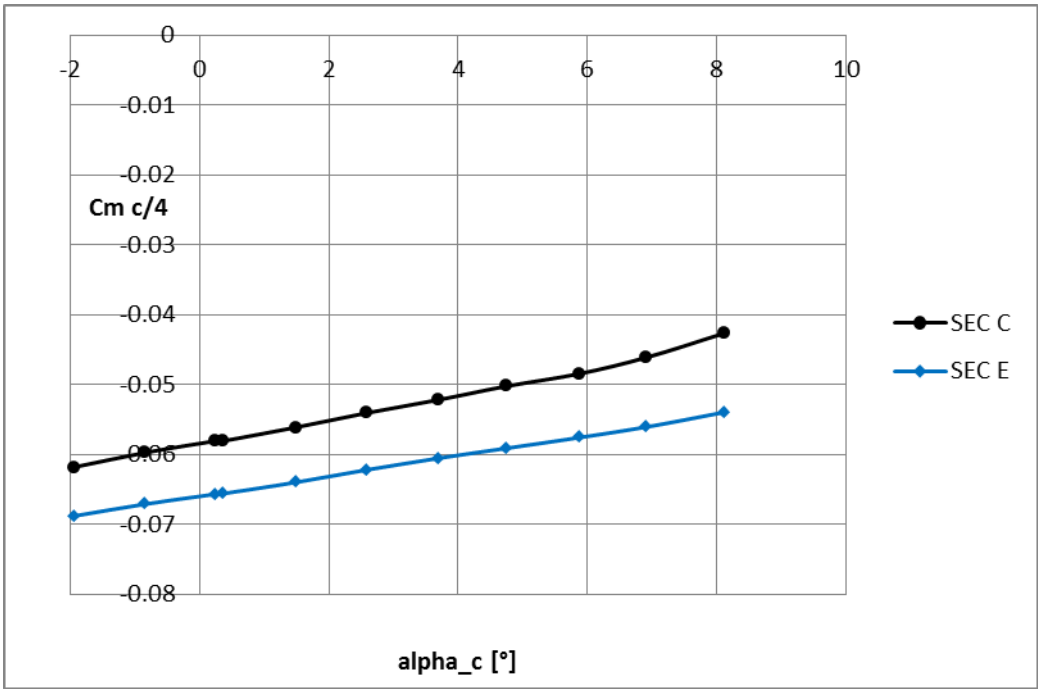

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

6.2.5 TEST T40: V=40 m/s, transition trips at x/c = 0.014

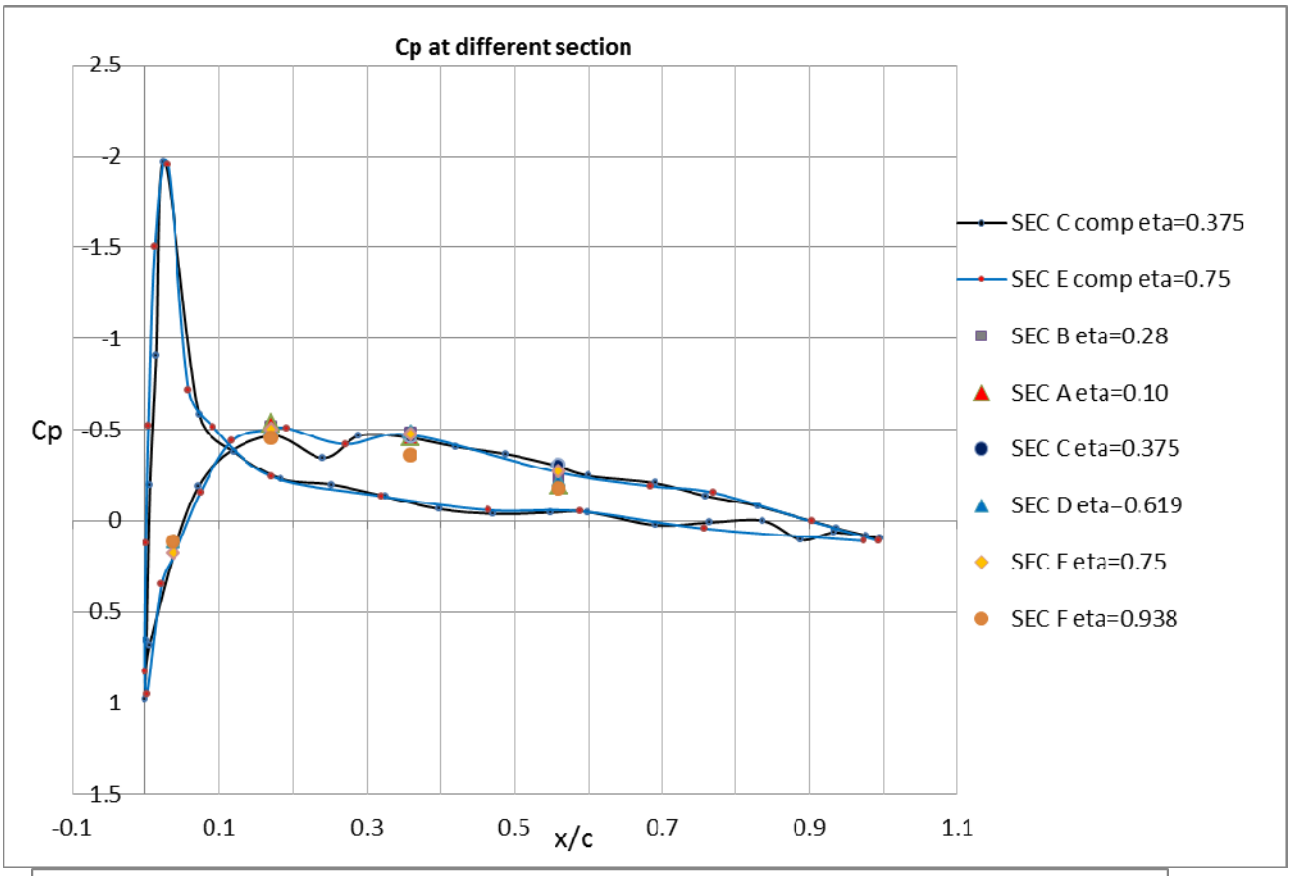


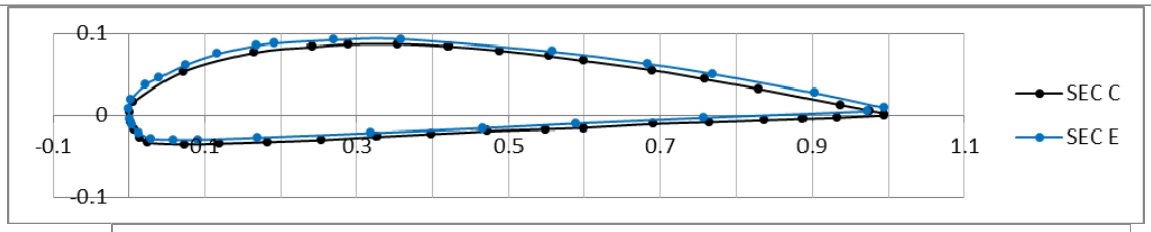
2-D Aerodynamic lift coefficient (corrected for solid block) Cl extracted from pressure distribution

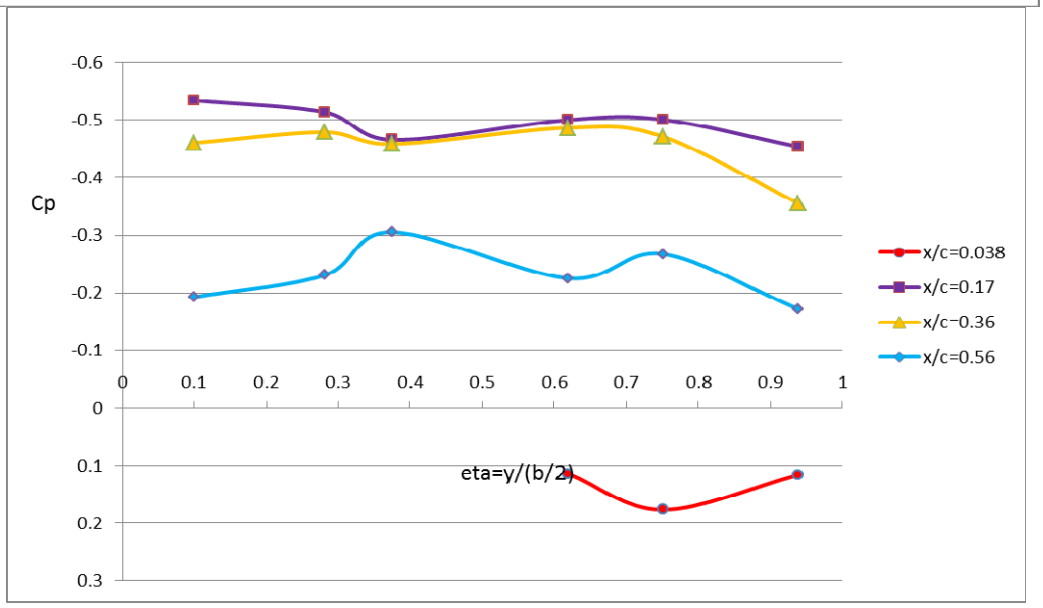


2-D Aerodynamic moment coefficient r.t.25% chord (corrected for solid block) extracted from pressure distribution

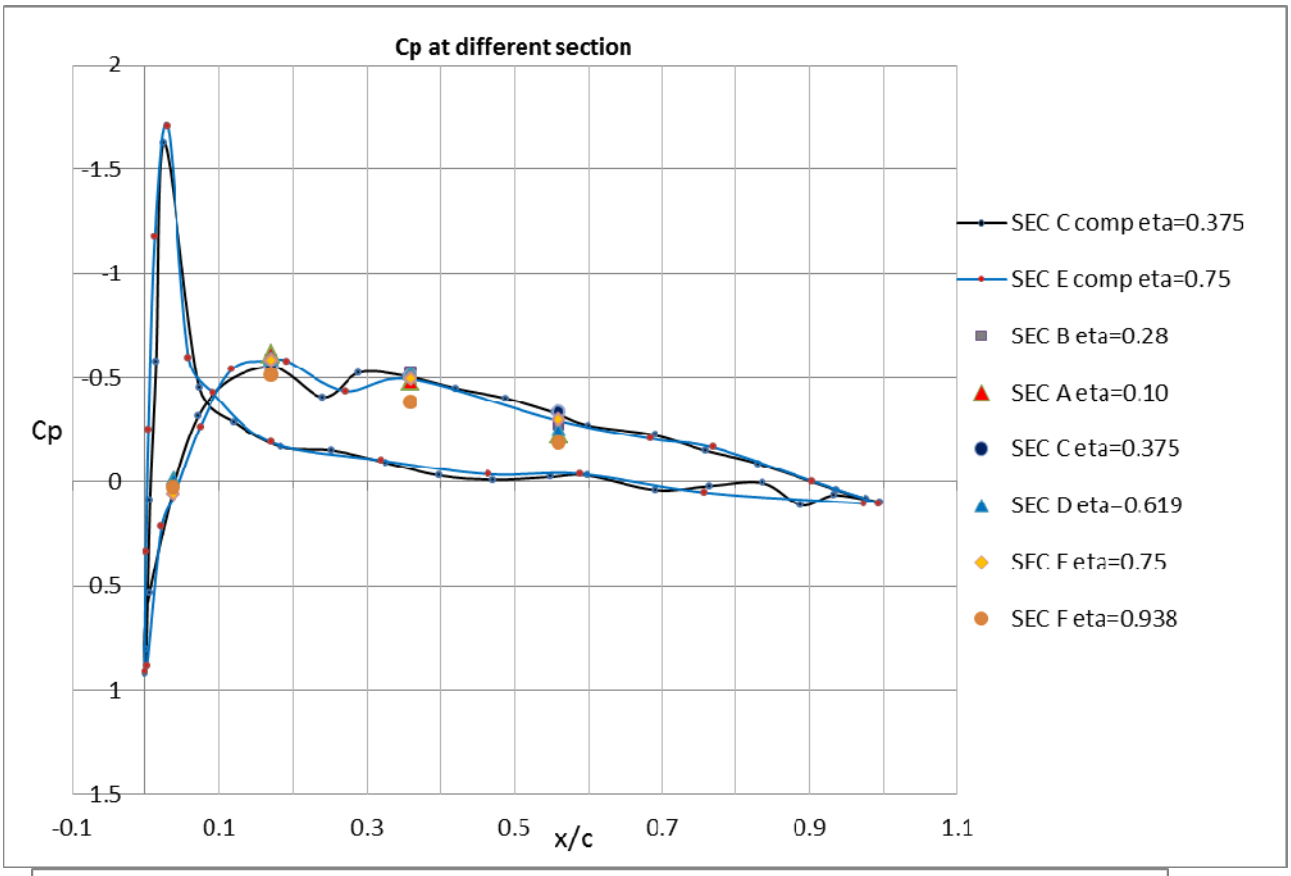
alpha_c=-1.94°

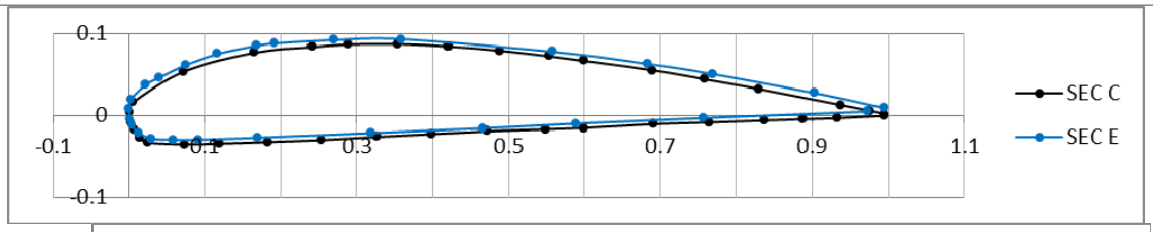

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

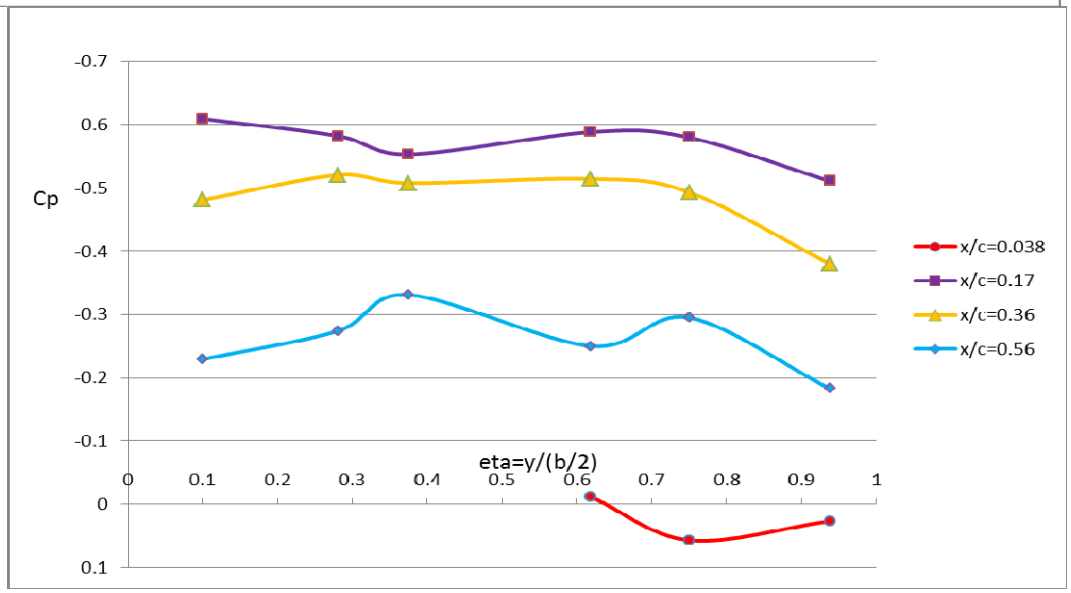

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

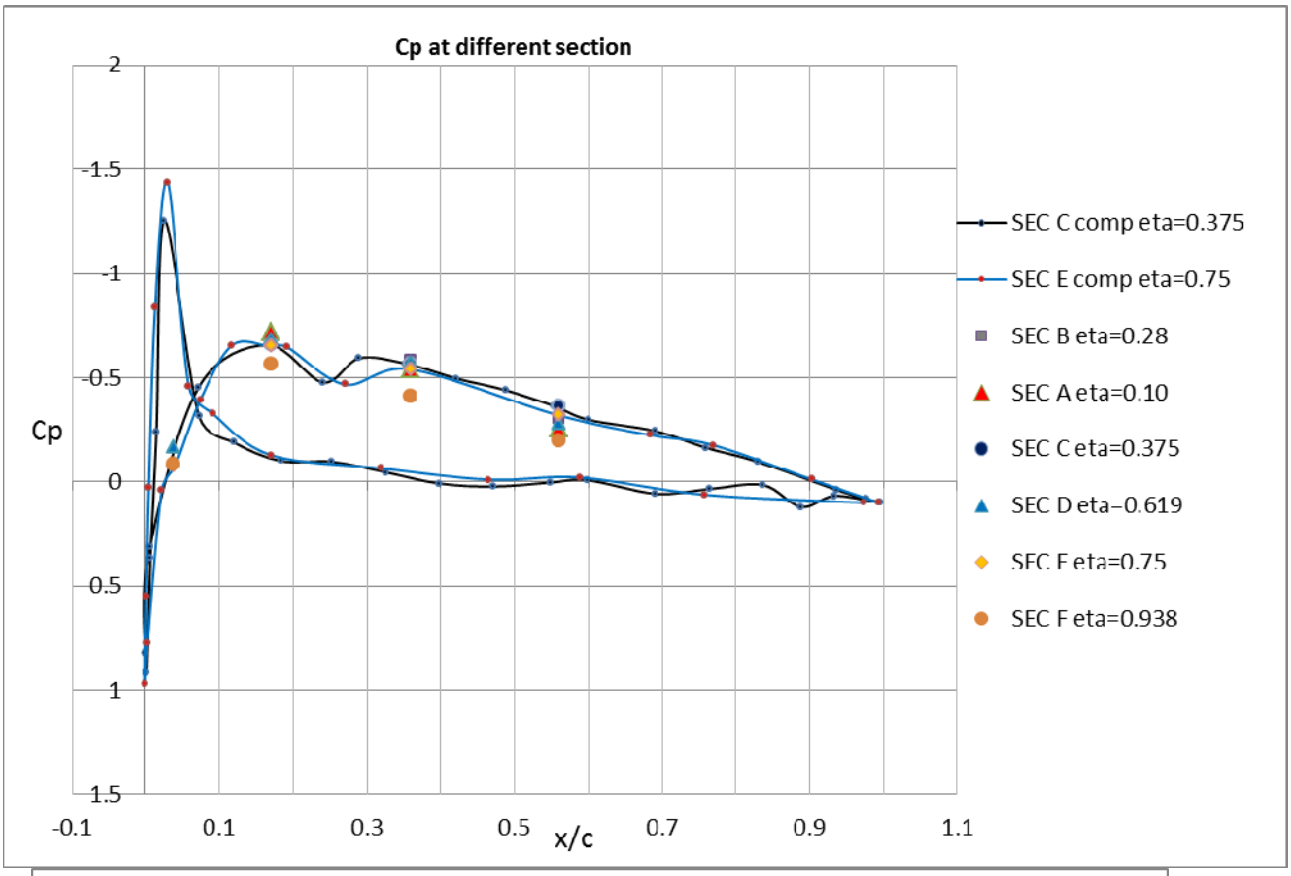
alpha_c=-0.85°

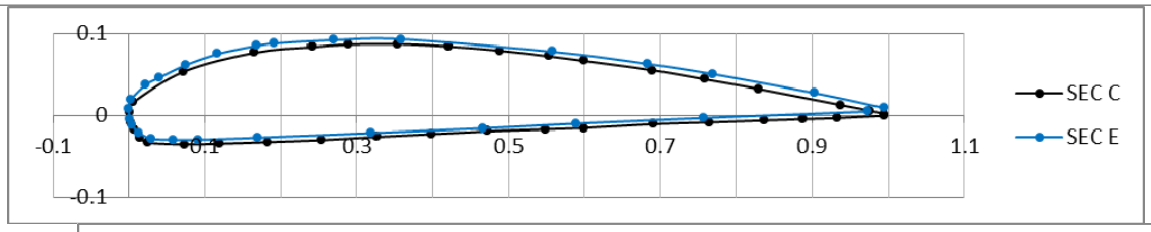

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

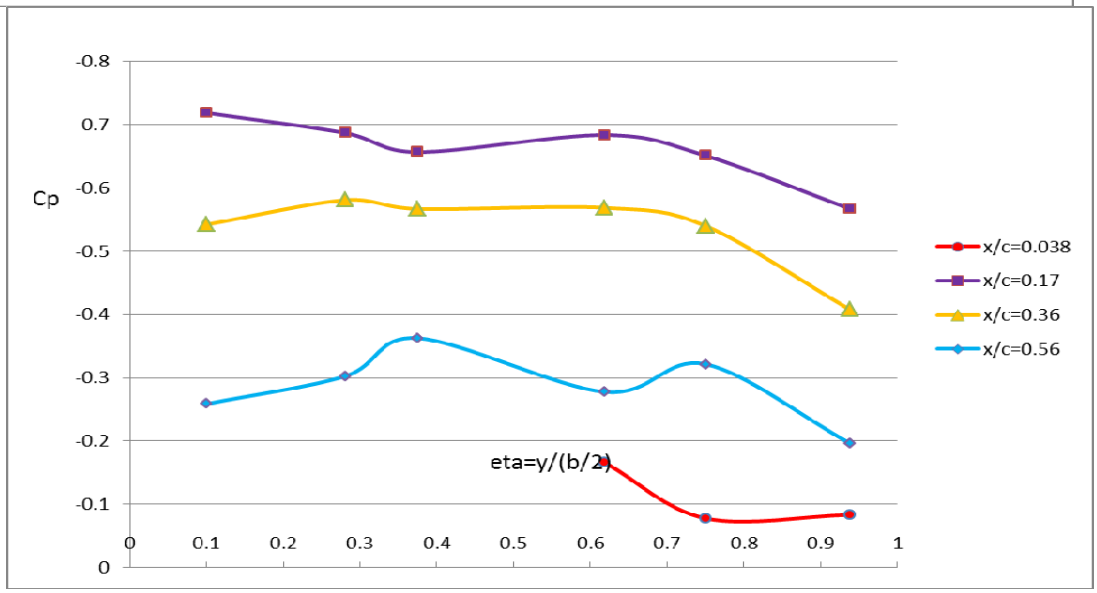

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

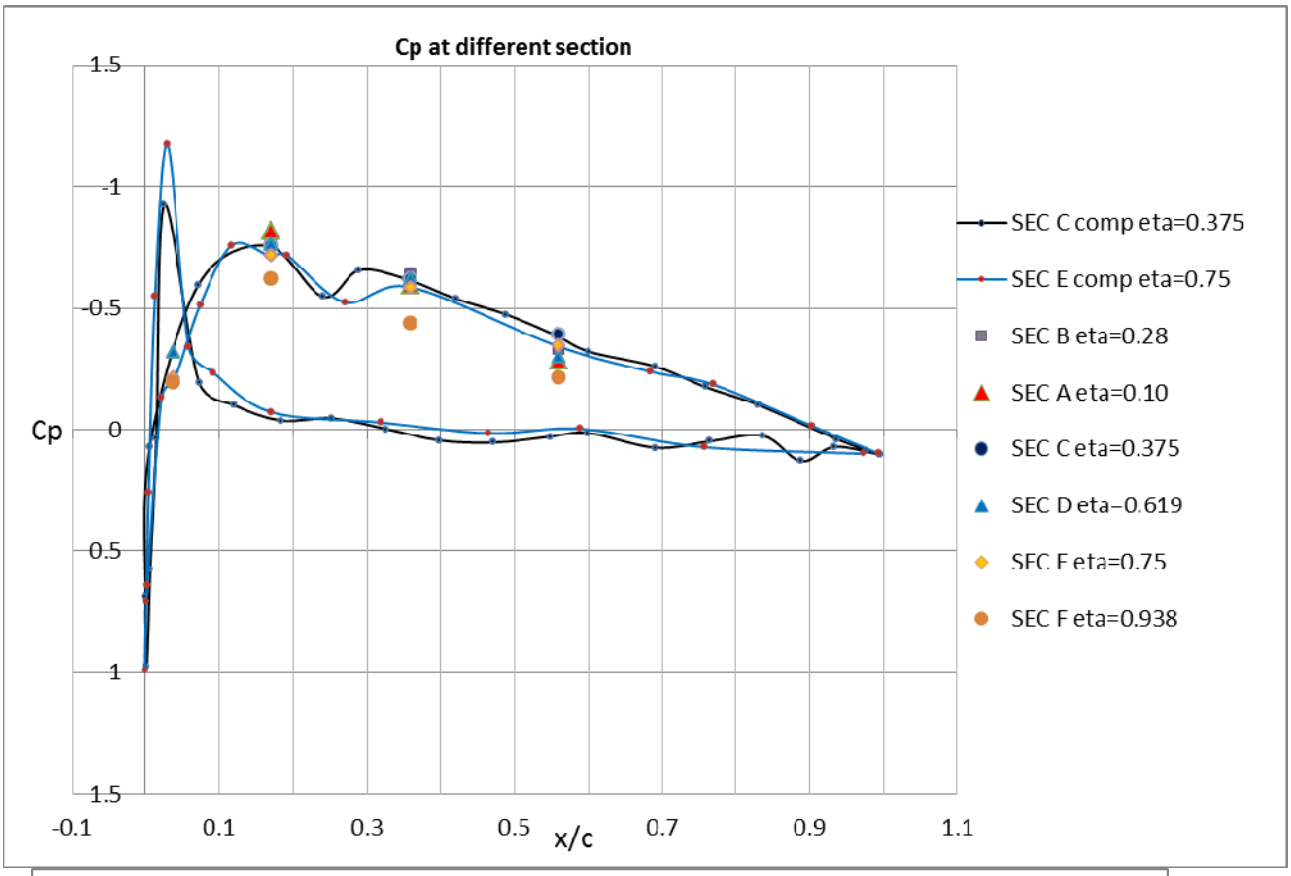
alpha_c= 0.36°

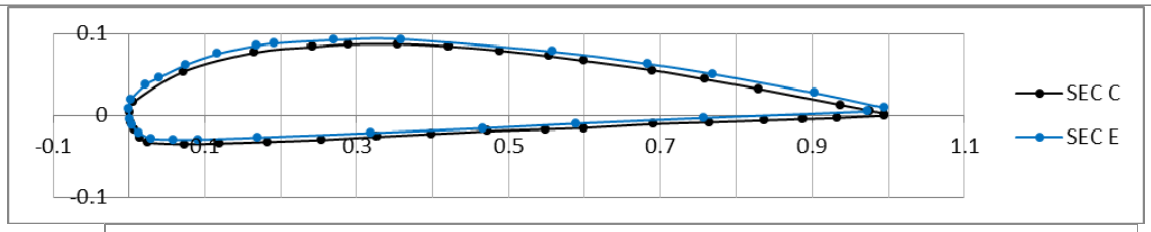

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

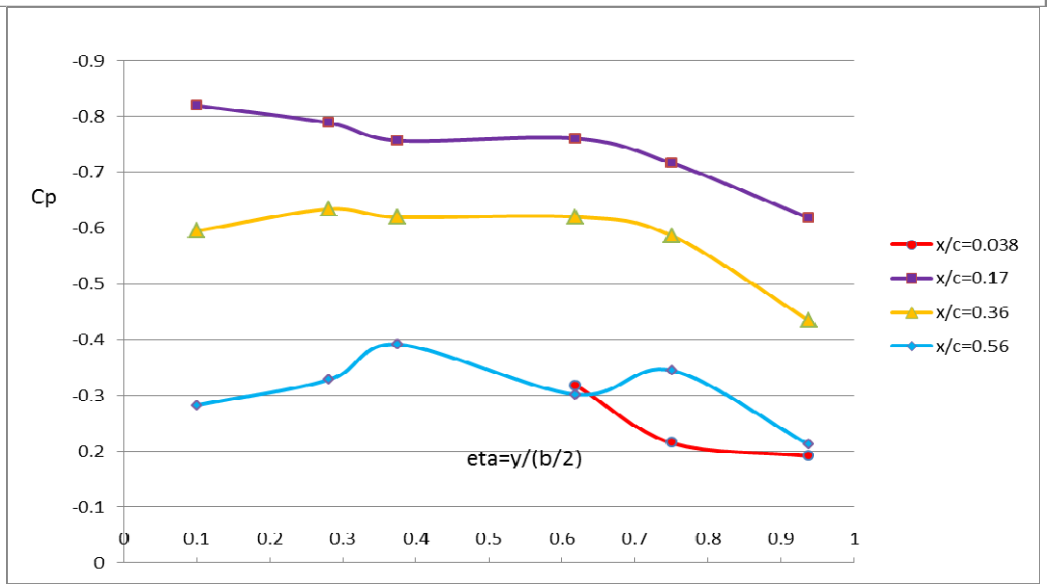

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

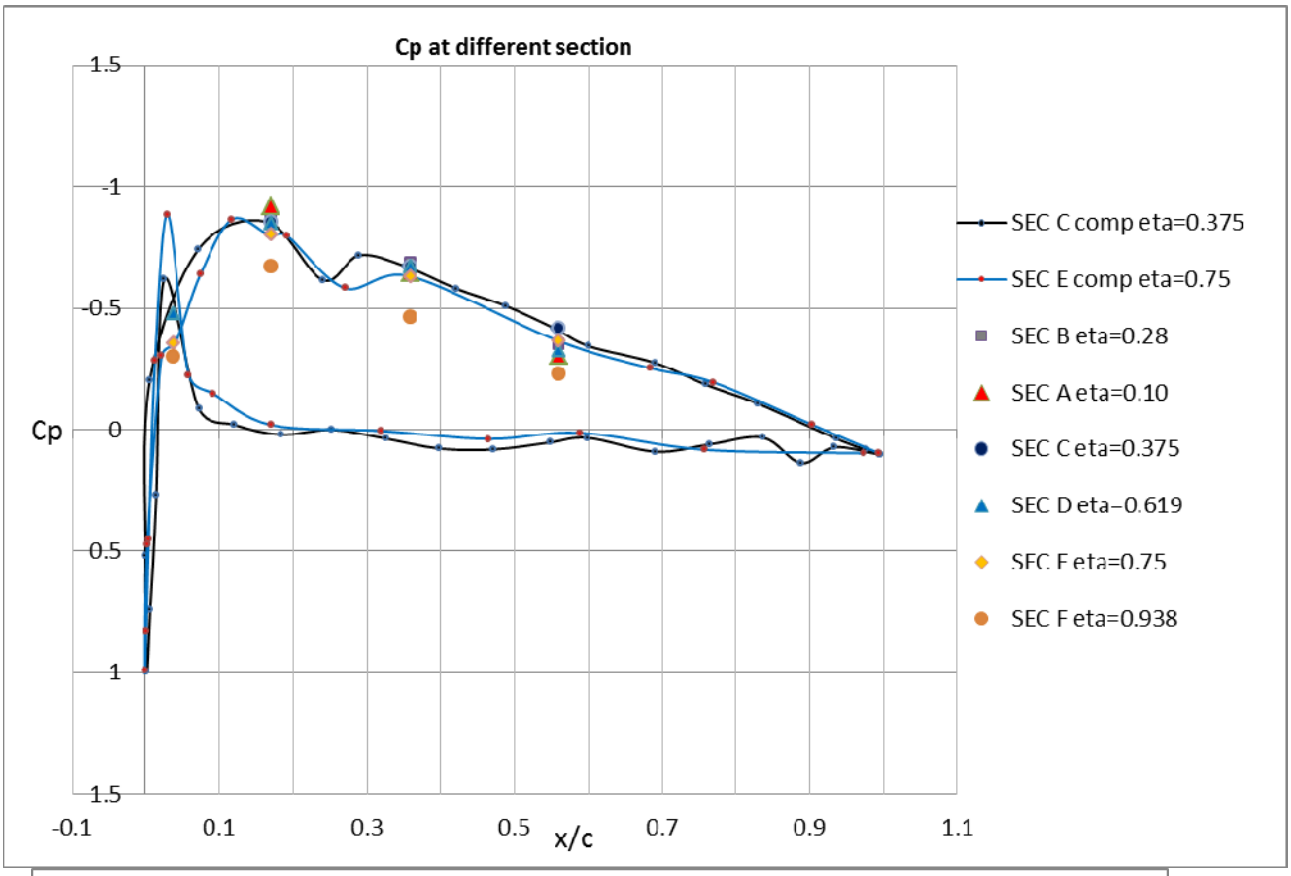
alpha_c= 1.49°

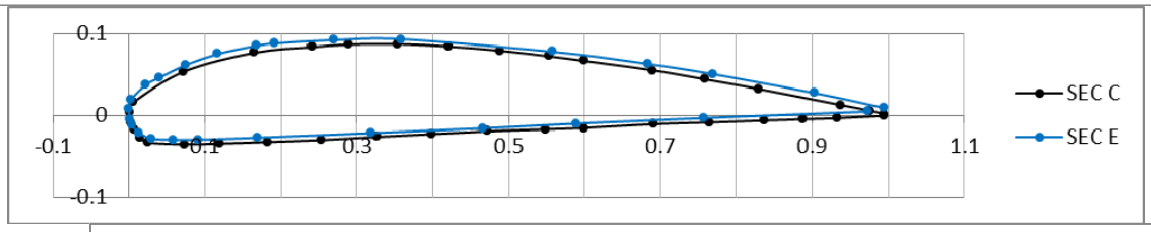

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

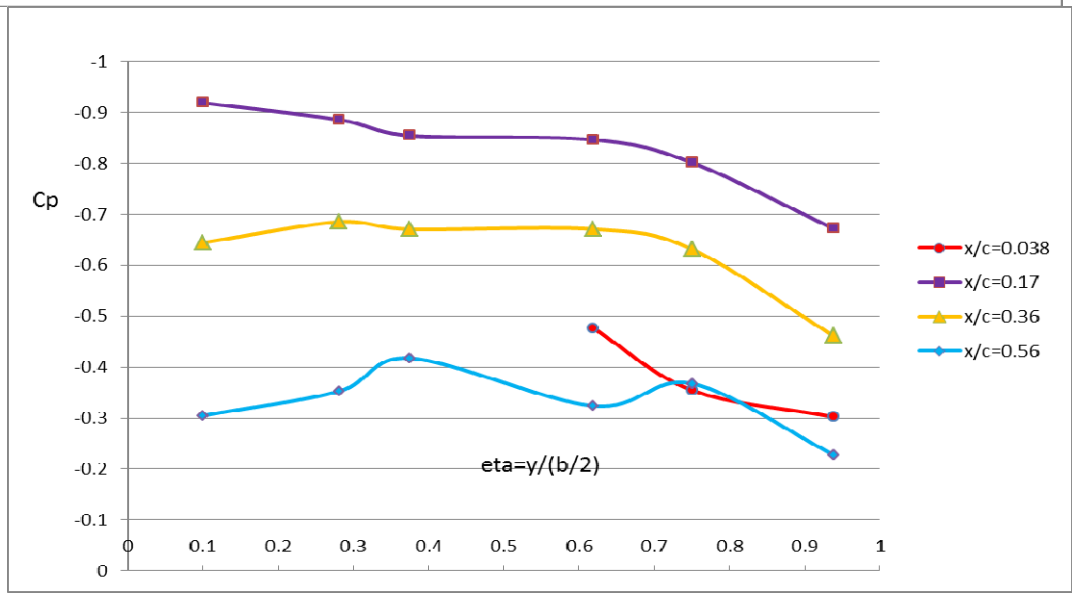

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

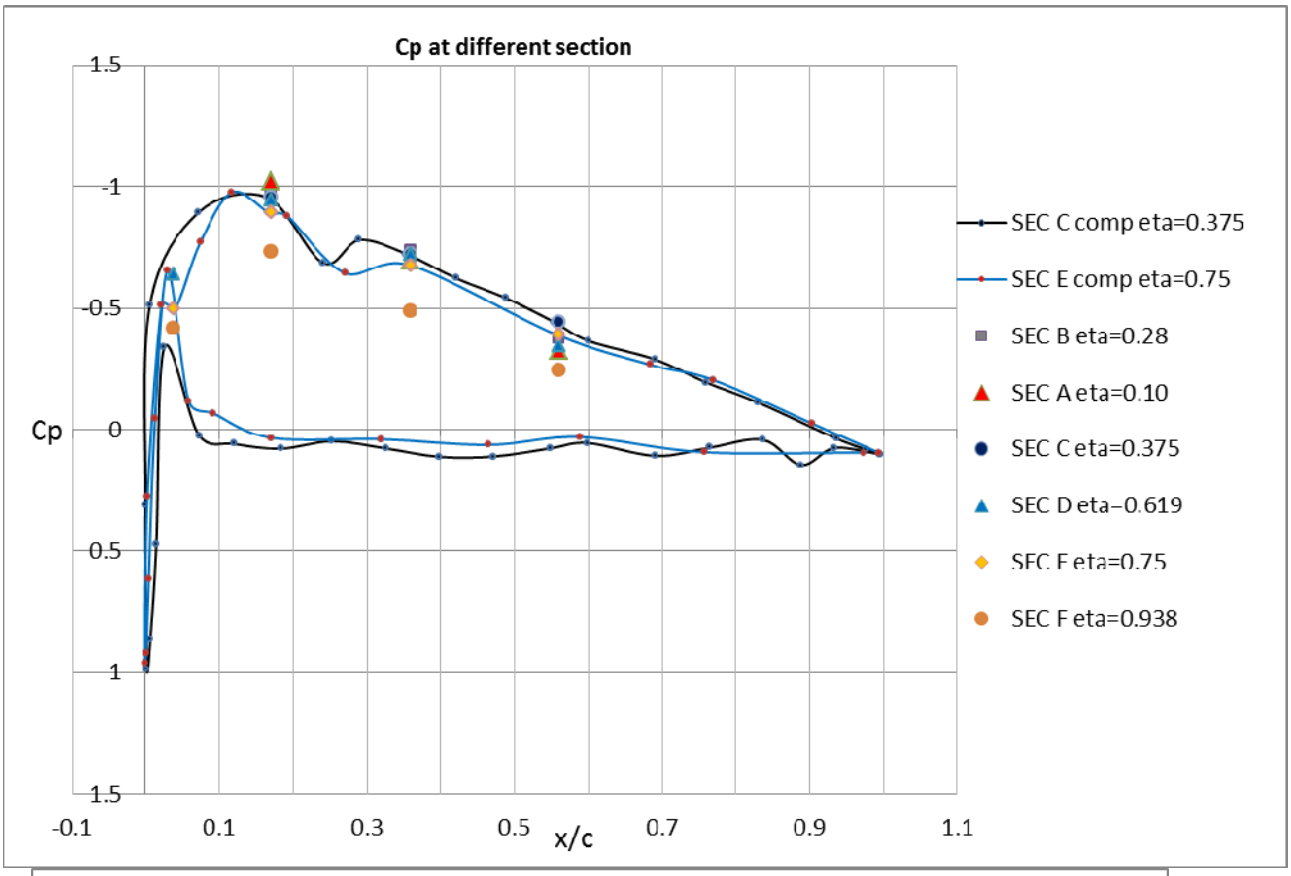
alpha_c= 2.59°

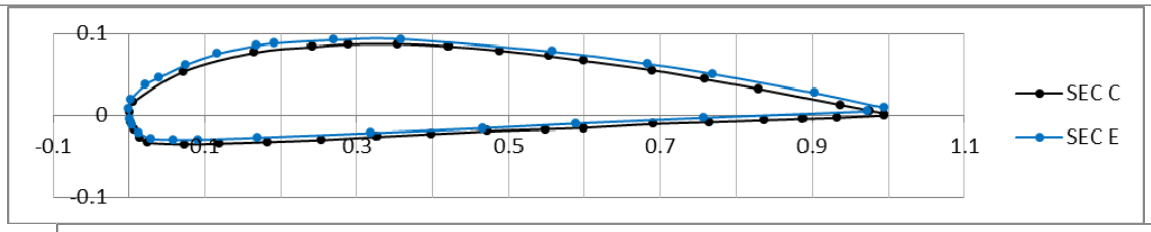

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

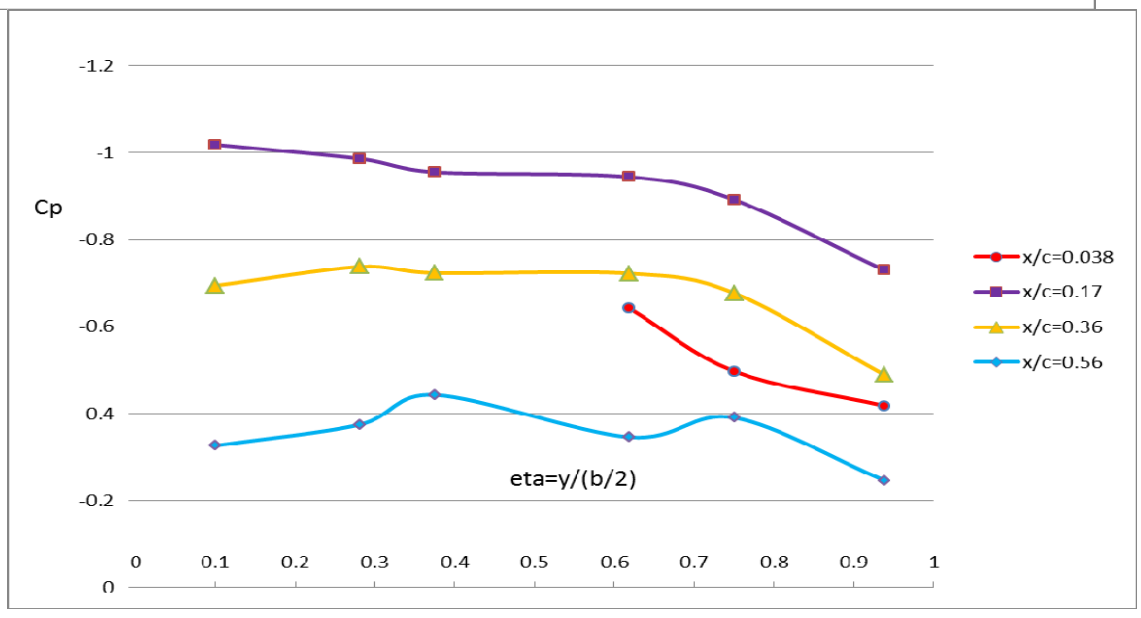

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

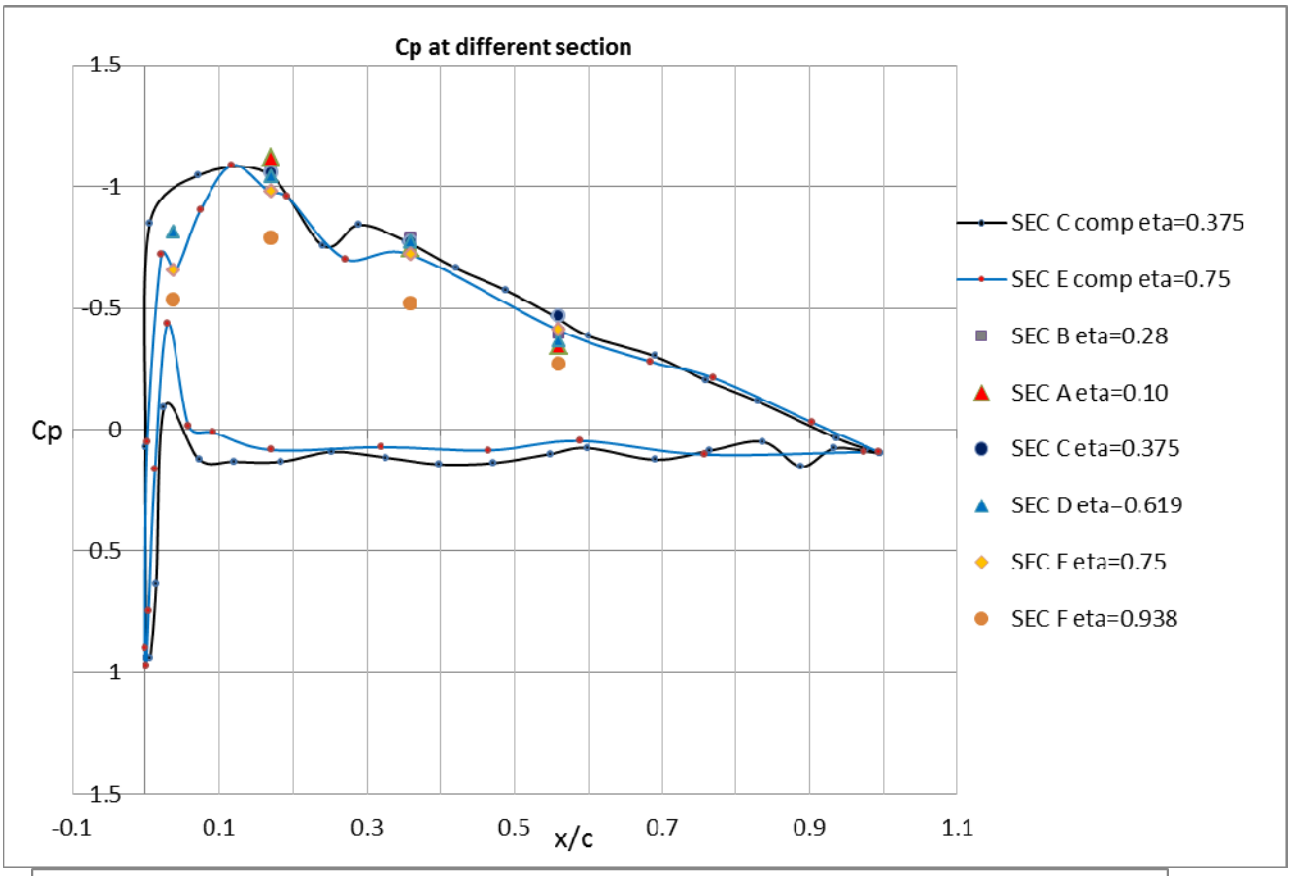
alpha_c= 3.70°

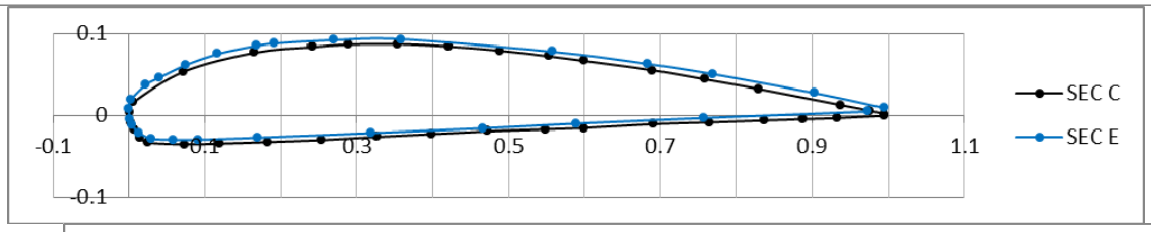

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

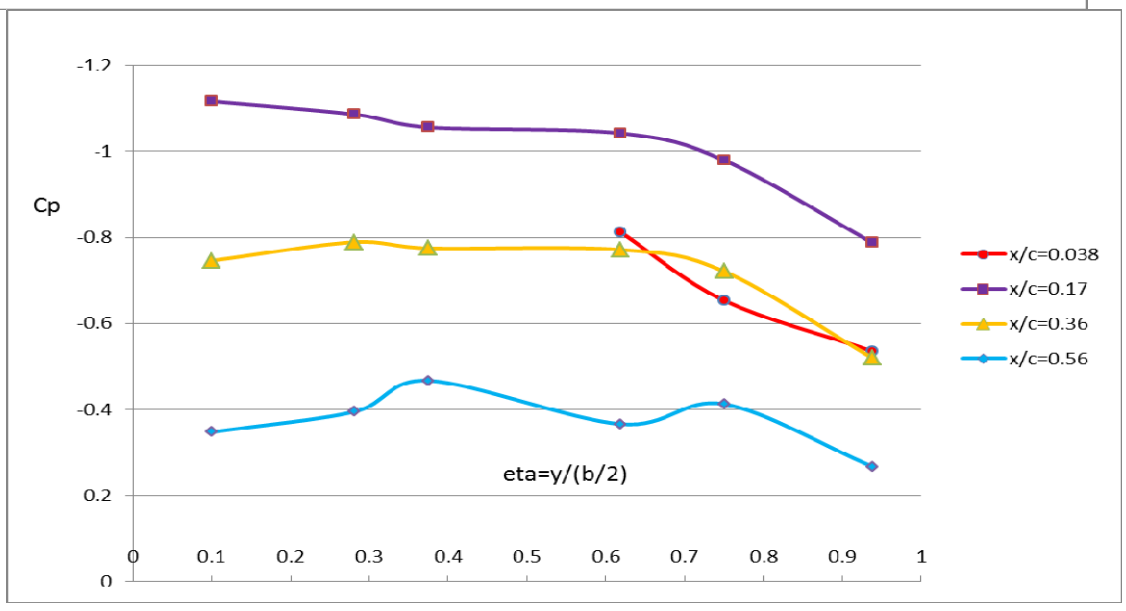

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

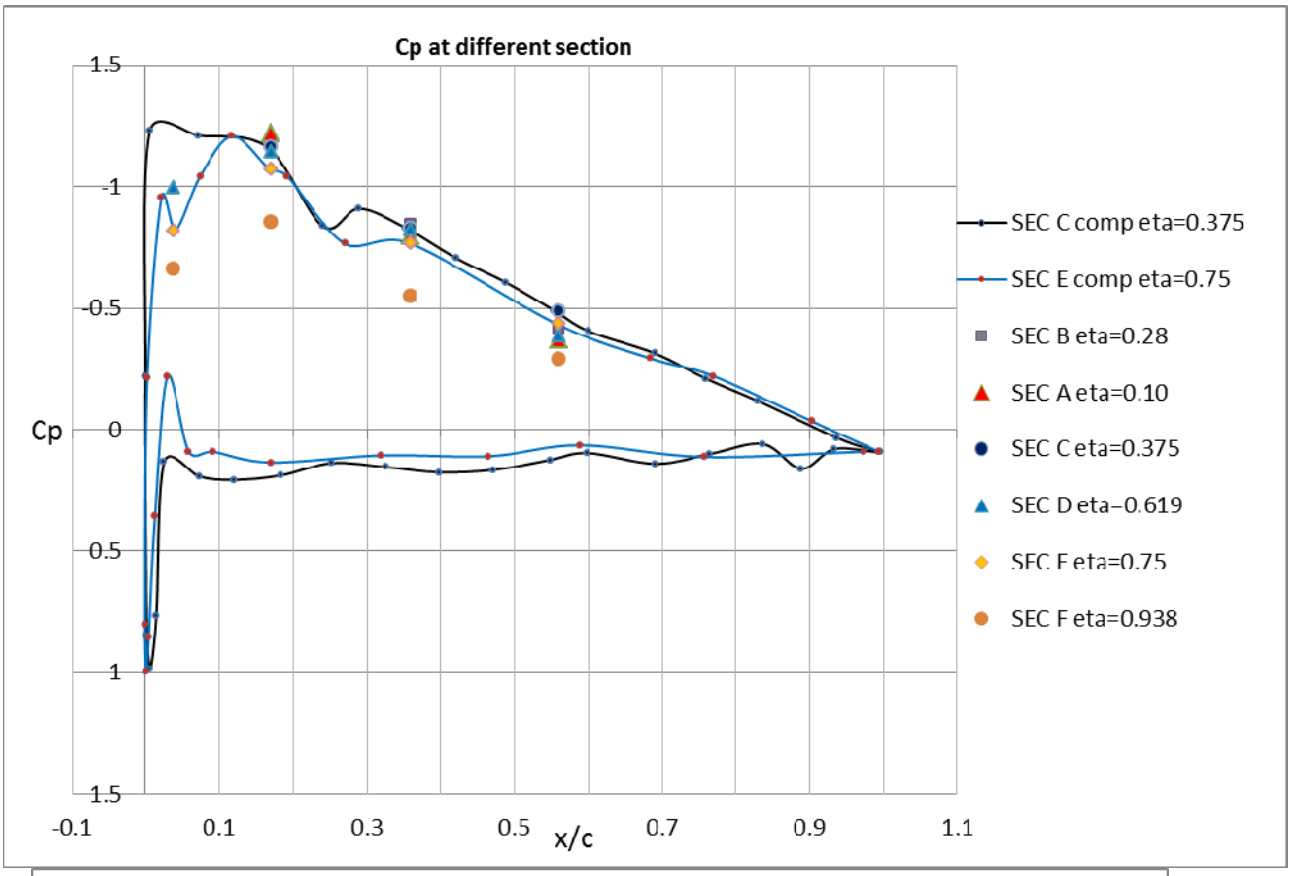
alpha_c= 4.75°

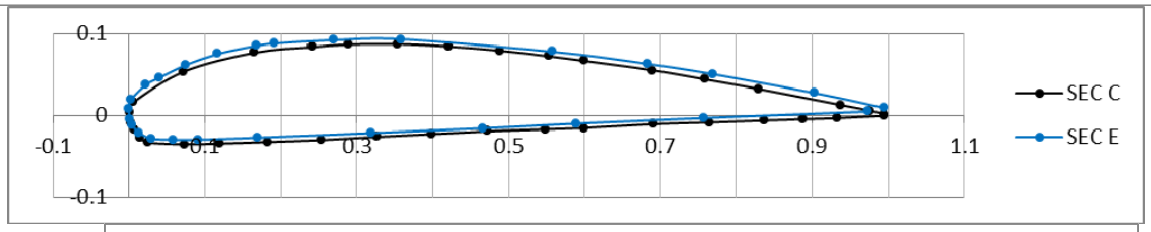

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

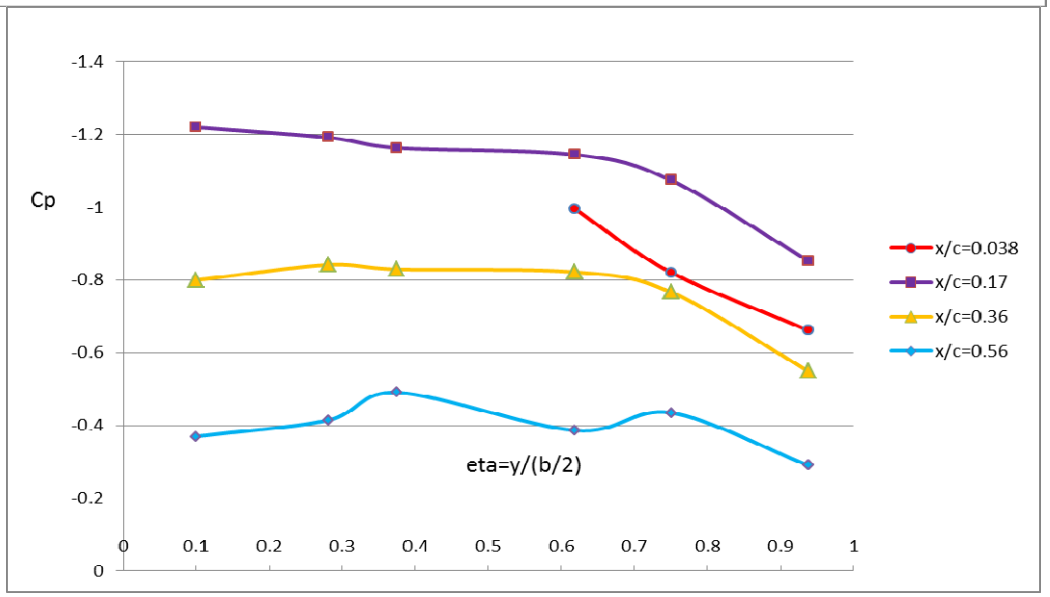

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

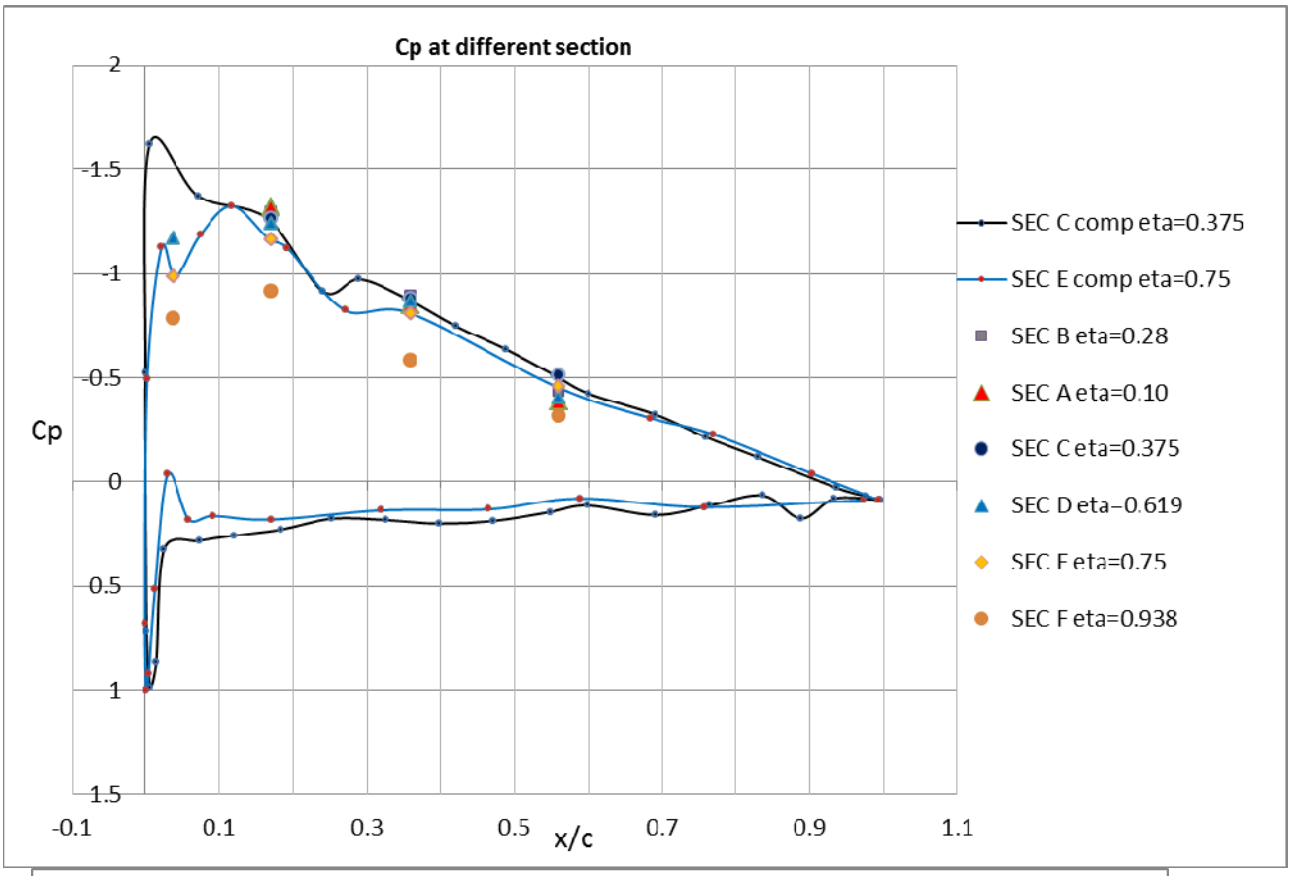
alpha_c= 5.88°

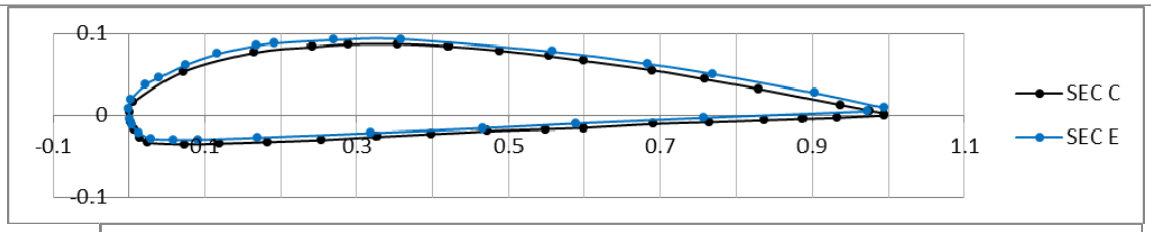

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

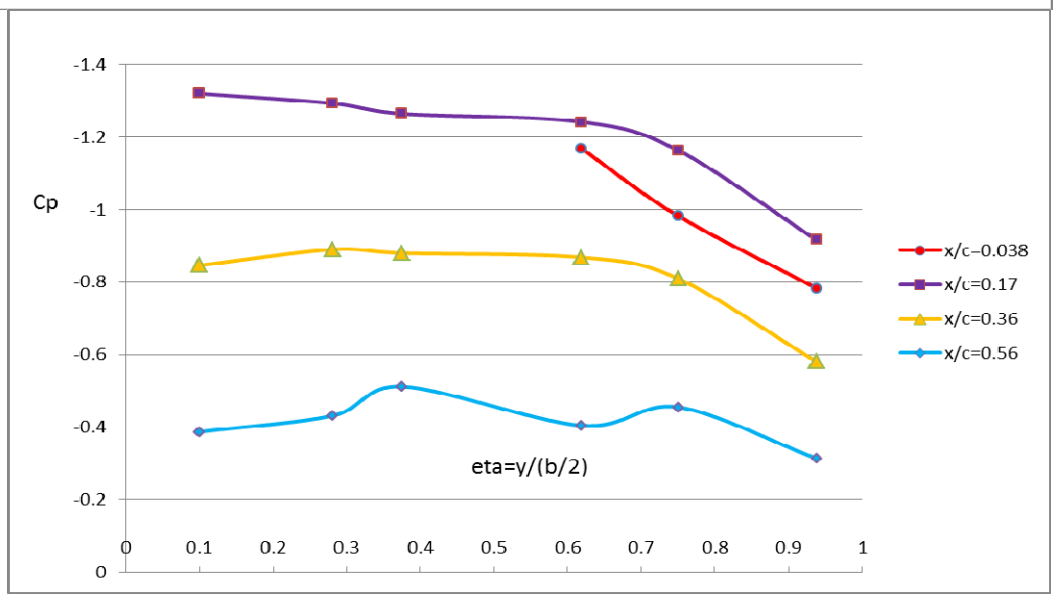

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

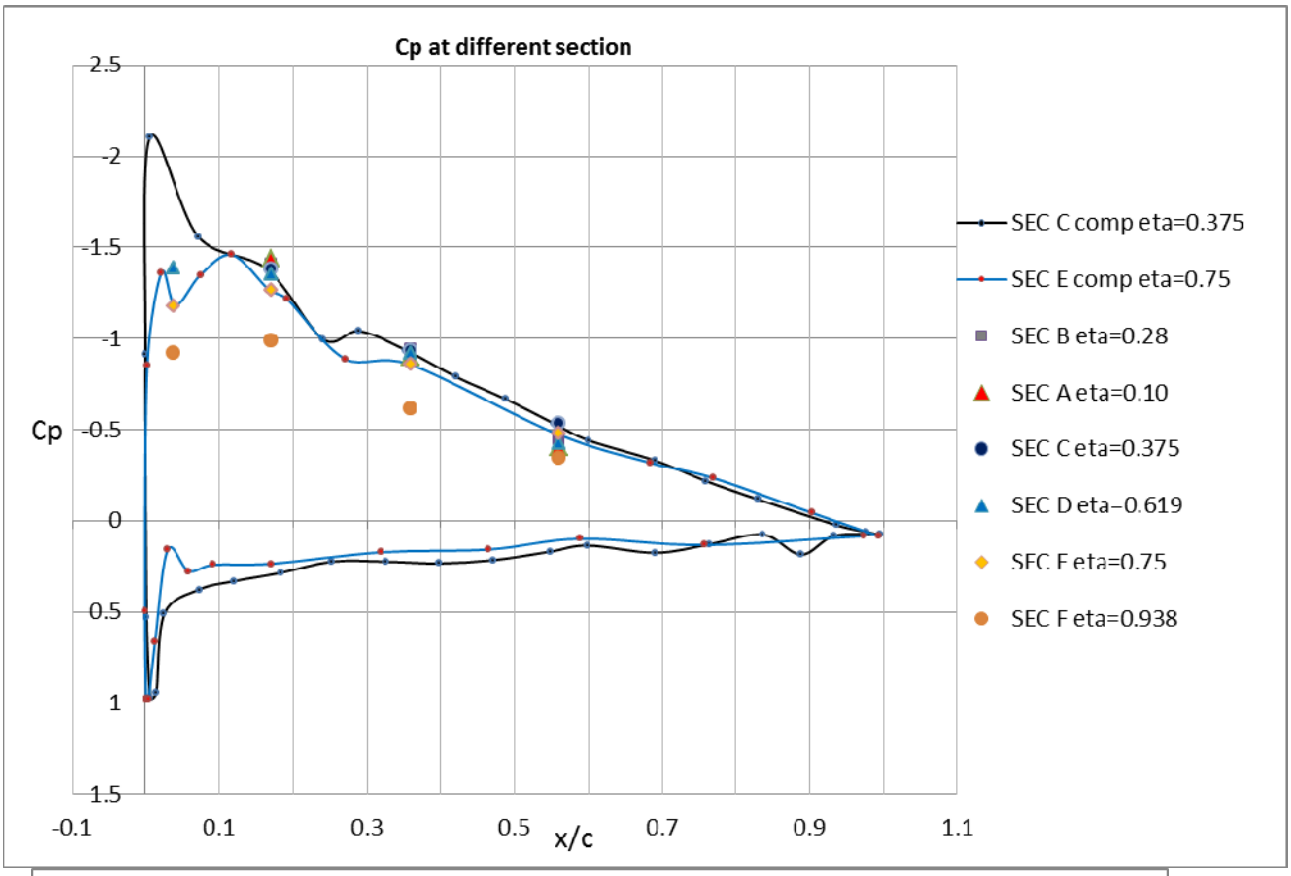
alpha_c= 6.92°

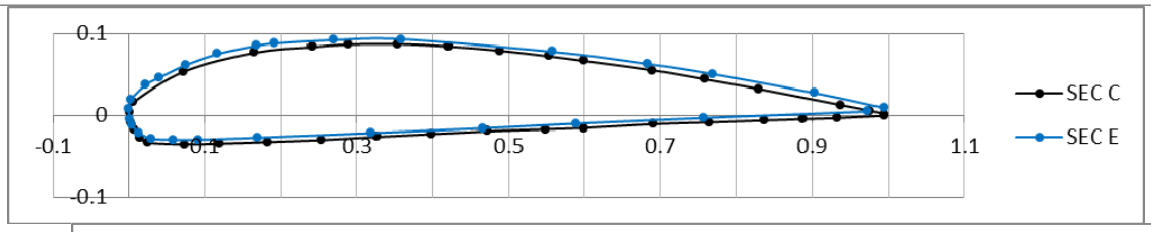

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

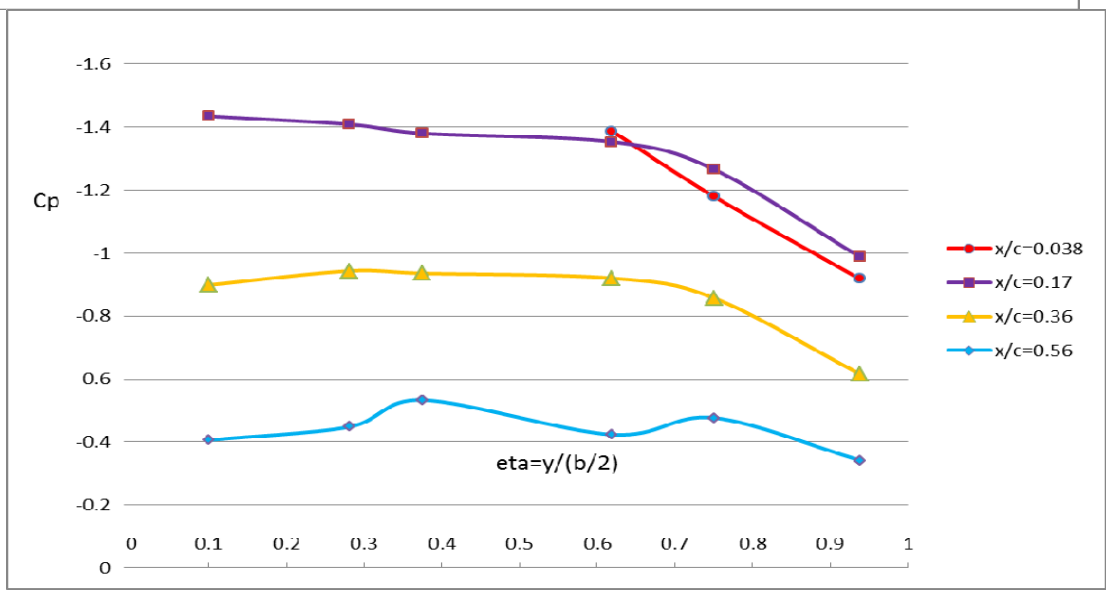

SEC C
SEC E


Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

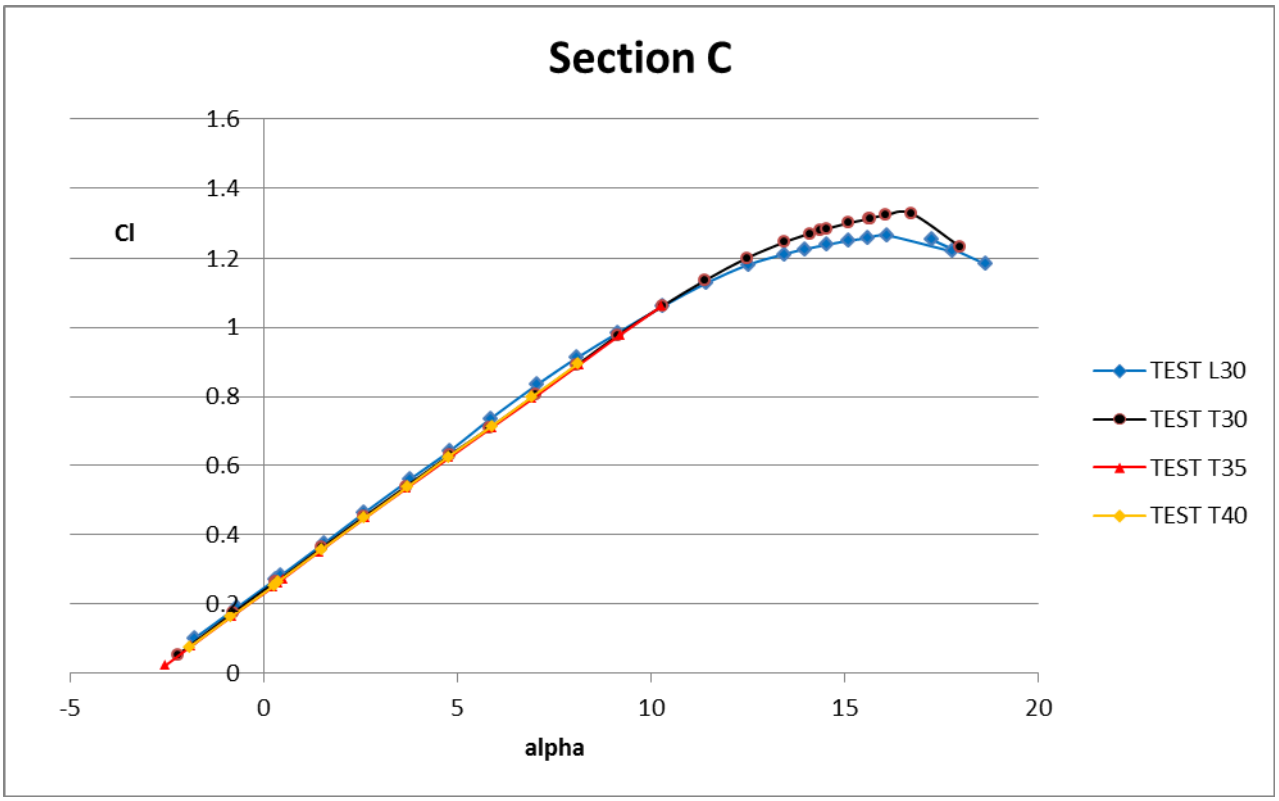
alpha_c= 8.12°

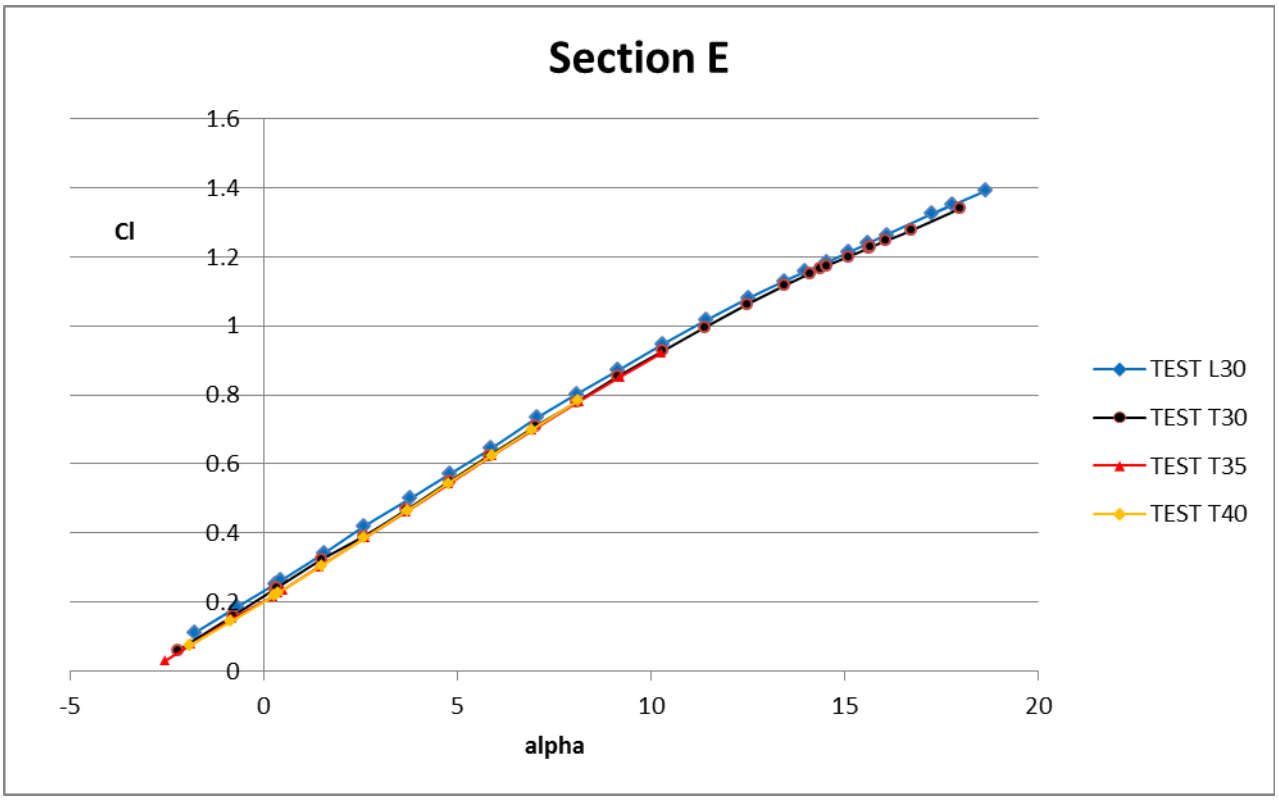

Cp at different section
Cp
x/c
SEC C comp eta=0.375
SEC E comp eta=0.75
SEC B eta=0.28
SEC A eta=0.10
SEC C eta=0.375
SEC D eta=0.619
SEC F eta=0.75
SEC F eta=0.938

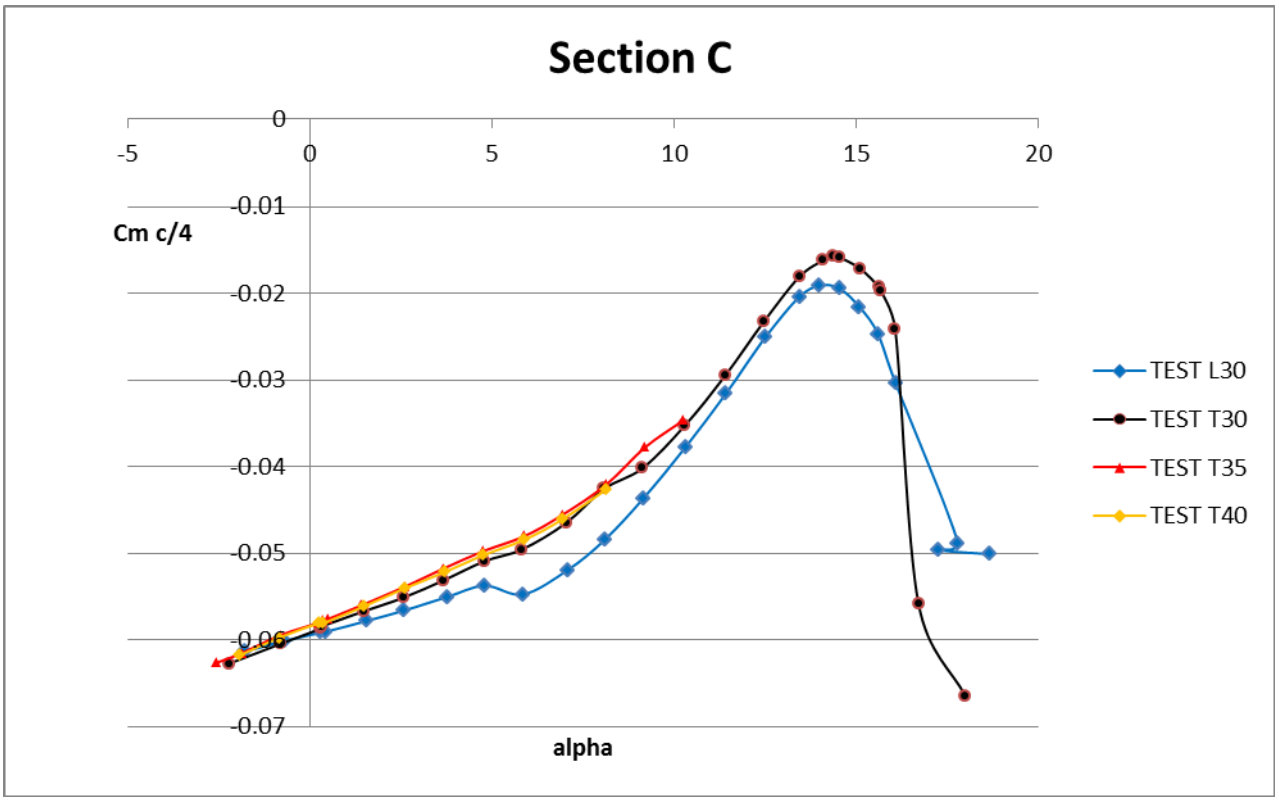

SEC C
SEC E

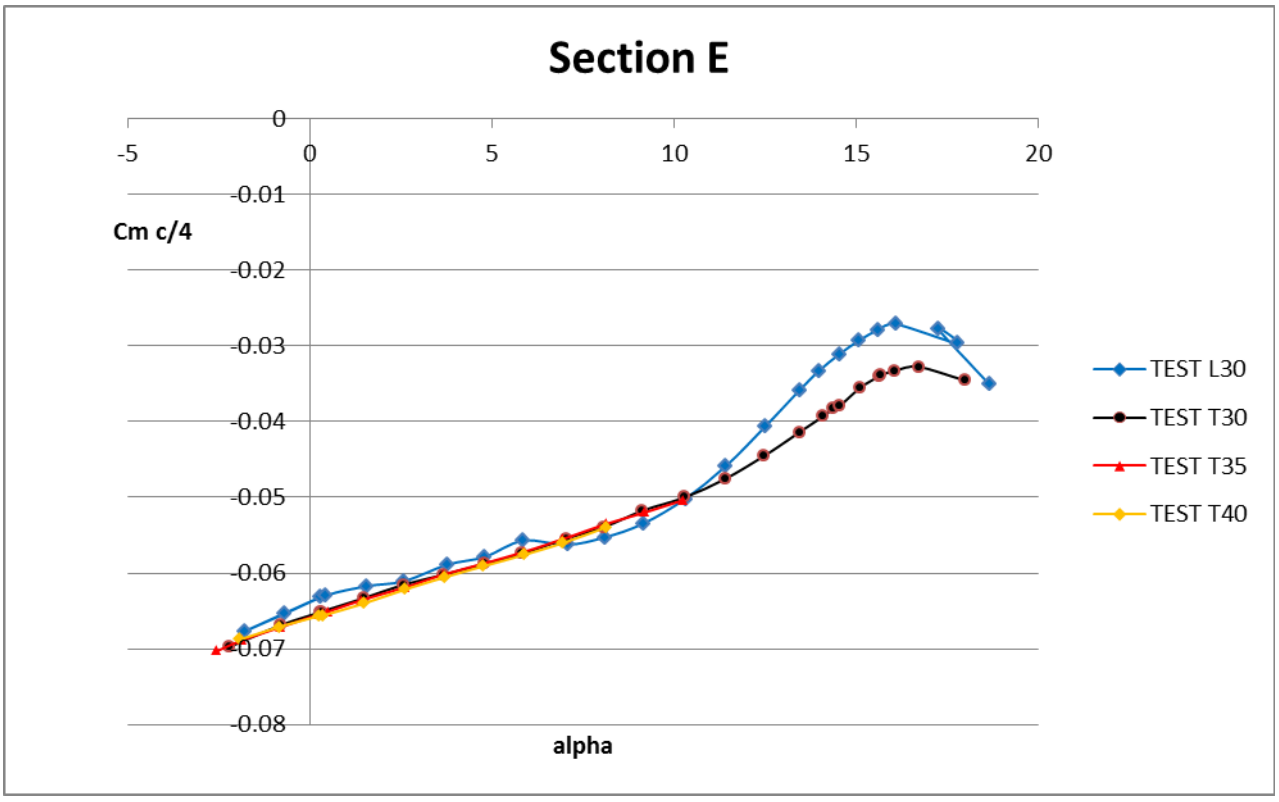

Cp
eta=y/(b/2)
x/c=0.038
x/c=0.17
x/c=0.36
x/c=0.56

6.3 Comparison of measured coefficients (from 2-D pressures)

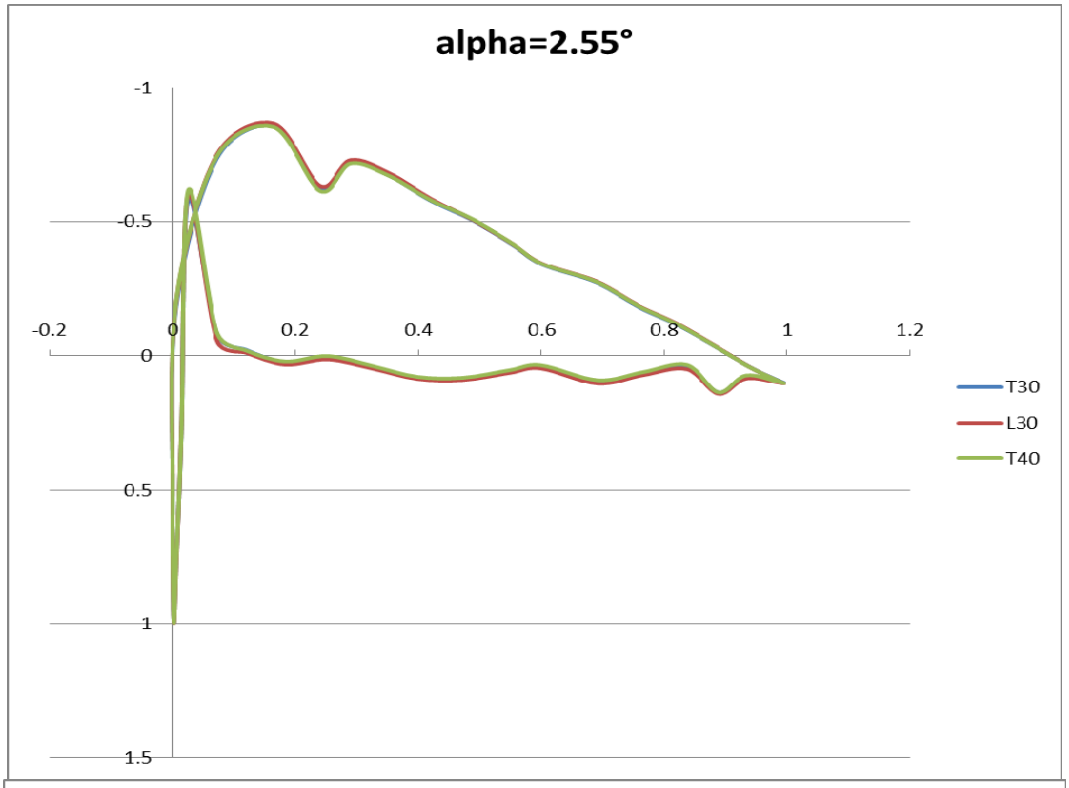


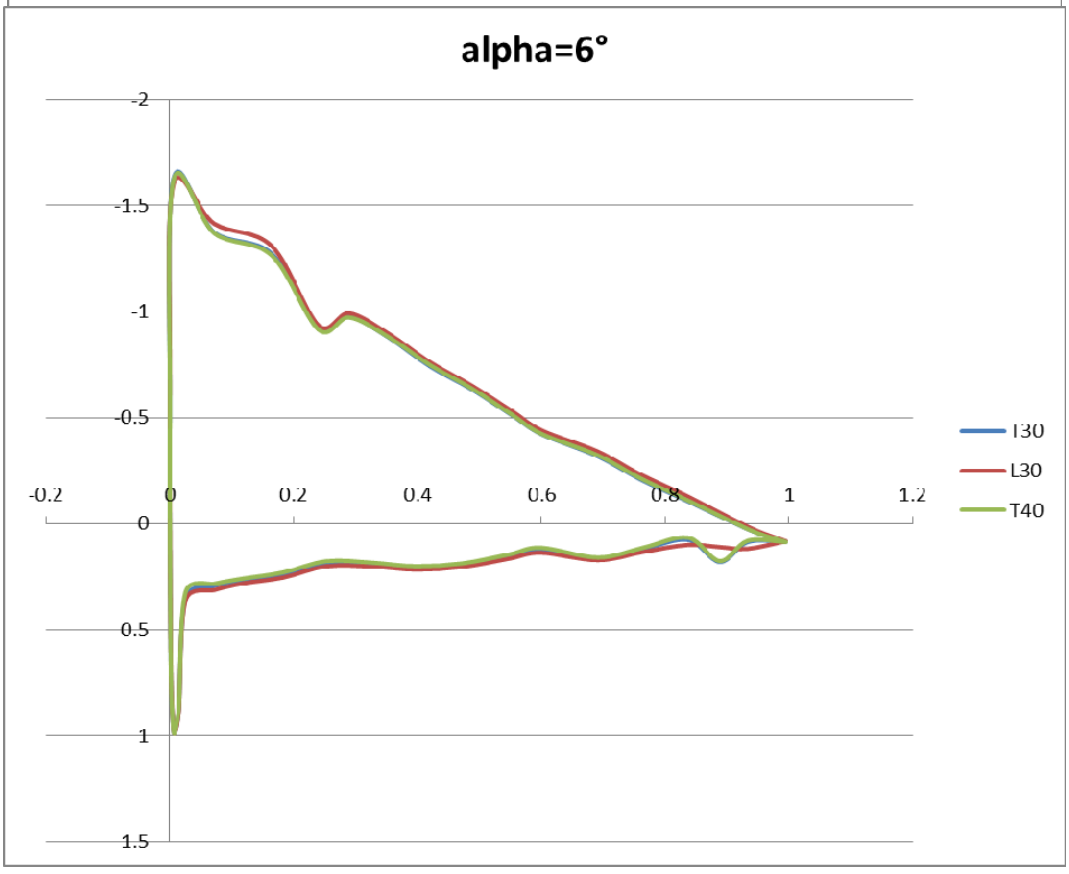


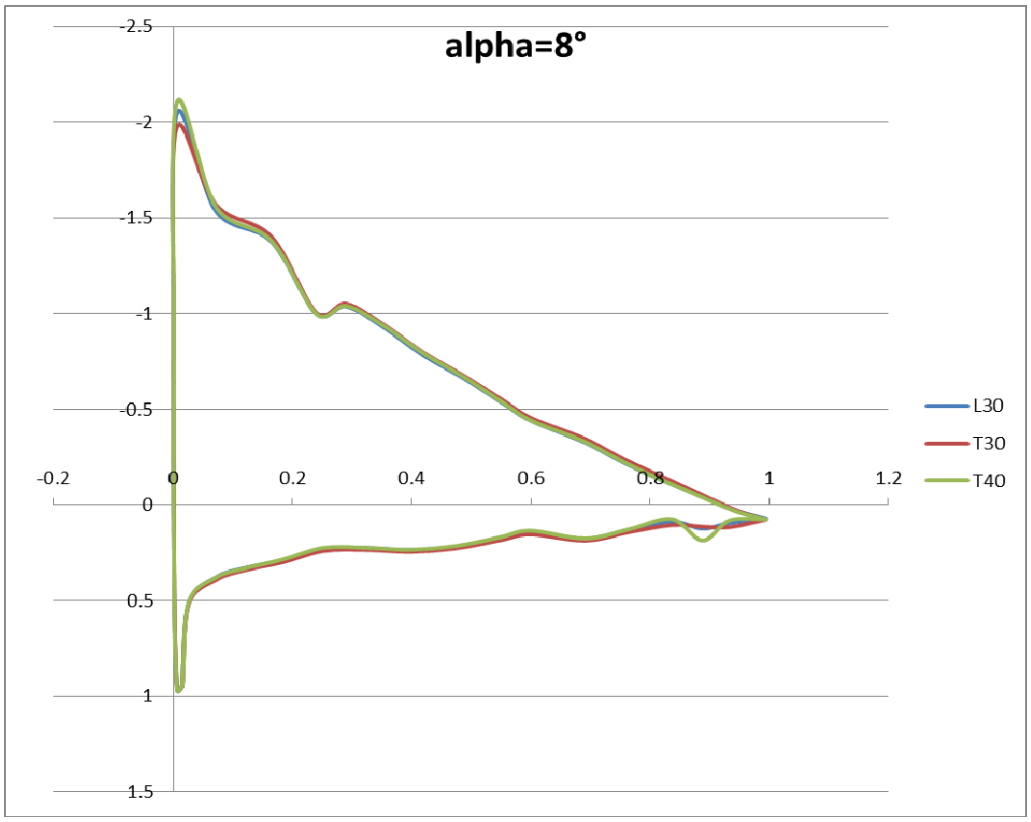

Section C
0
-5
0
5
10
15
20
-0.01
Cm c/4
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
alpha
TEST L30
TEST T30
TEST T35
TEST T40

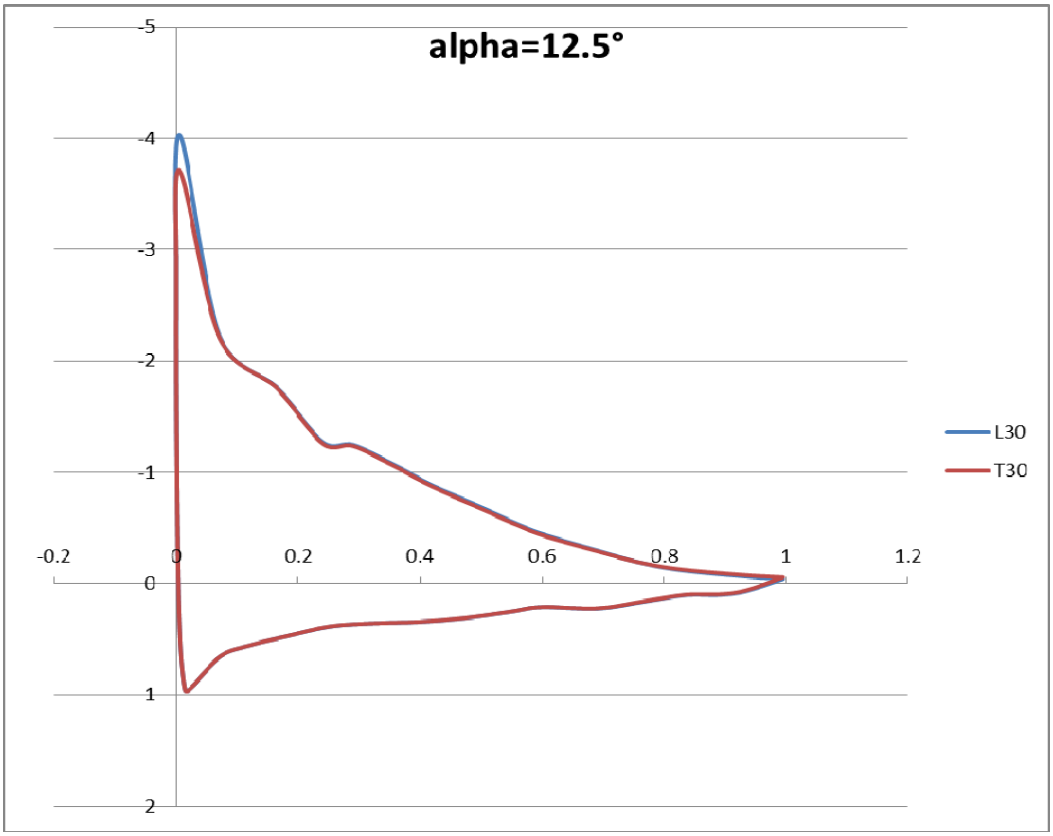

Section E
0
-5
0
5
10
15
20
-0.01
Cm c/4
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
alpha
TEST L30
TEST T30
TEST T35
TEST T40

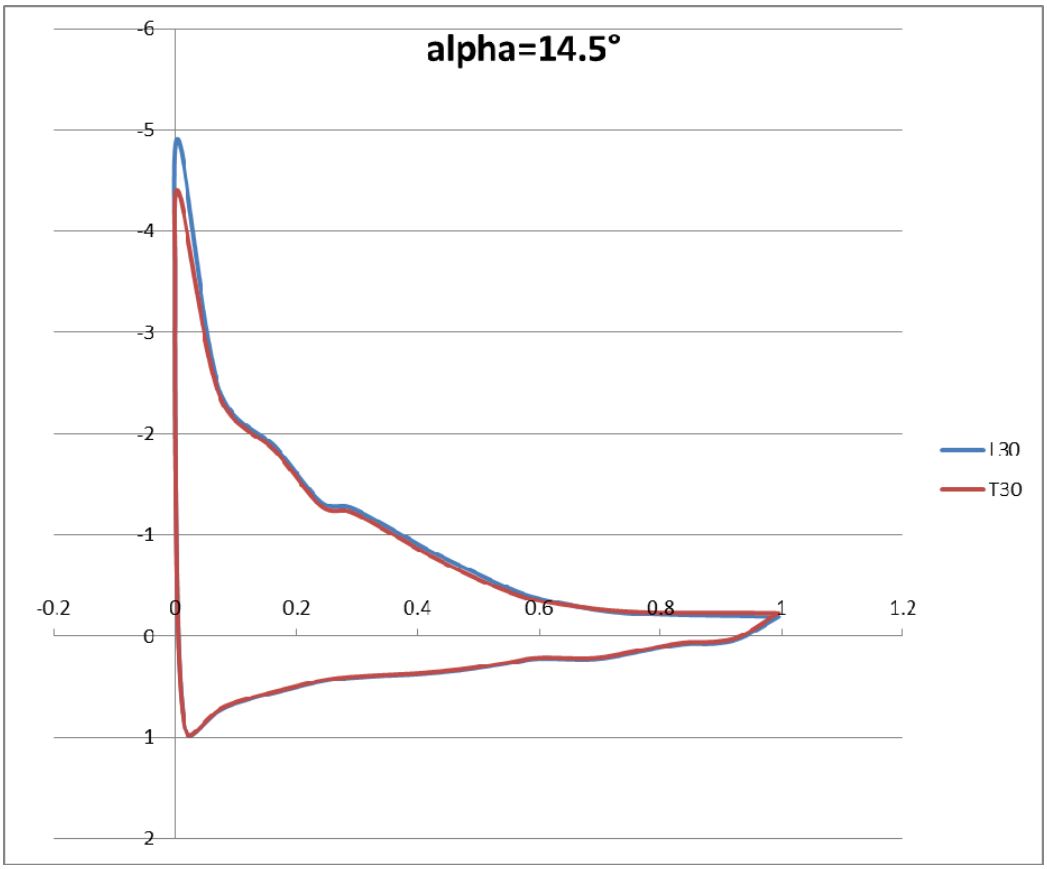
6.4 Comparison of pressures coefficients






alpha=8°
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
-0.2
0
0.2
0.4
0.6
0.8
1
1.2
L30
T30
T40


alpha=12.5°
-5
-4
-3
-2
-1
0
1
2
-0.2
0
0.2
0.4
0.6
0.8
1
1.2
L30
T30


alpha=14.5°
-6
-5
-4
-3
-2
-1
0
1
2
-0.2
0
0.2
0.4
0.6
0.8
1
1.2
I30
T30

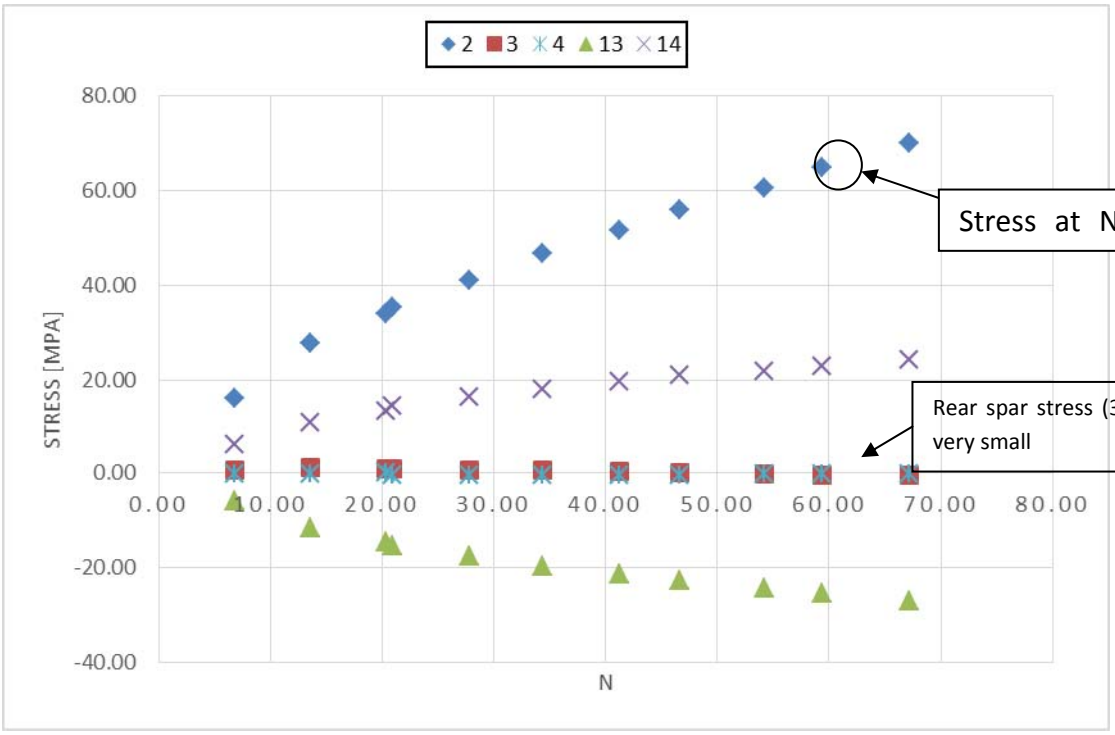
6.5 Strain and stress measurement

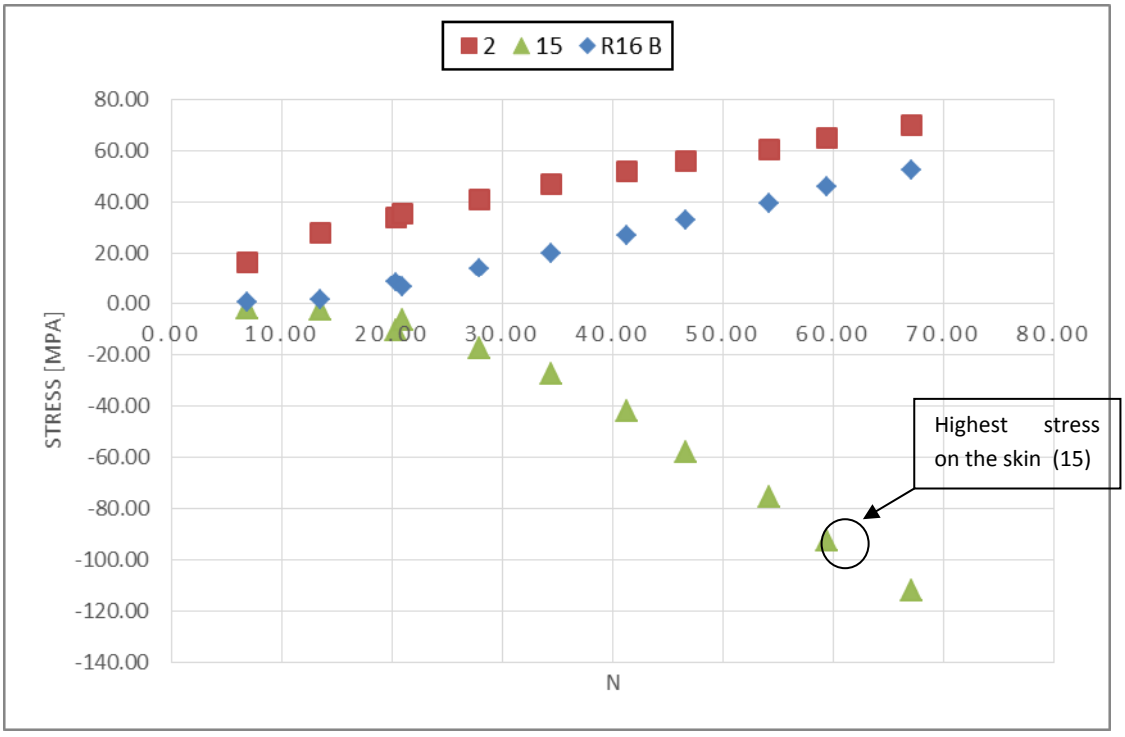
6.5.1 TEST T40: V=40 m/s, Transition trips at x/c= 0.014

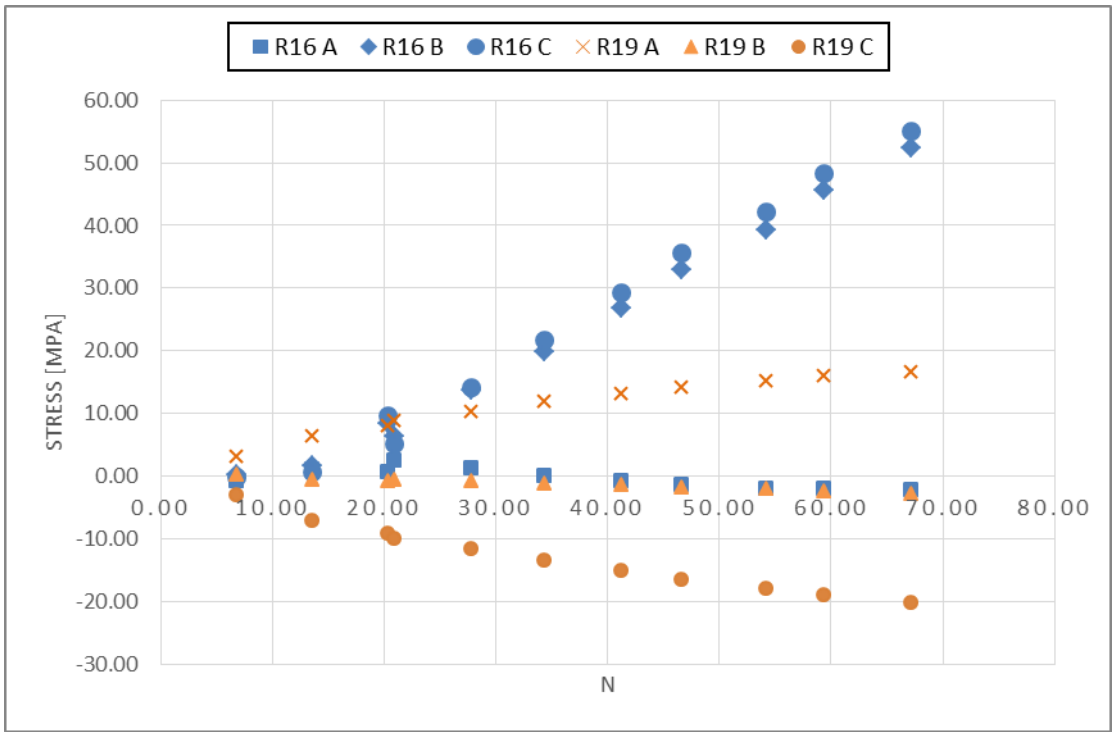
		Measured Forces and Moments							
Alfa_cor		N	Mfl	Yaw	Yaw_root	D	Mycb= My-My_tara	Mypolo	Mfl root
[°]		[kg]	[kgm]	[kgm]	[kg*m]	[Kg]	[kg*m]	[kg*m]	Kg m
-1.940		6.839	6.181	1.115	0.915	1.195	-2.279	-2.479	5.039
-0.850		13.536	12.042	1.039	0.849	1.137	-2.018	-2.441	9.782
0.250		20.370	17.941	1.049	0.857	1.151	-1.746	-2.395	14.540
0.360		20.989	18.470	1.043	0.852	1.143	-1.690	-2.360	14.964
1.490		27.873	24.419	1.145	0.938	1.241	-1.362	-2.257	19.765
2.590		34.378	30.105	1.321	1.085	1.413	-1.085	-2.192	24.364
3.700		41.261	36.209	1.577	1.298	1.670	-0.736	-2.066	29.318
4.750		46.616	41.015	1.819	1.496	1.929	-0.453	-1.954	33.230
5.880		54.178	47.827	2.192	1.794	2.384	-0.069	-1.810	38.779
6.920		59.420	52.519	2.436	1.975	2.761	0.244	-1.663	42.596
8.120		67.153	59.259	2.686	2.117	3.404	0.685	-1.463	48.044

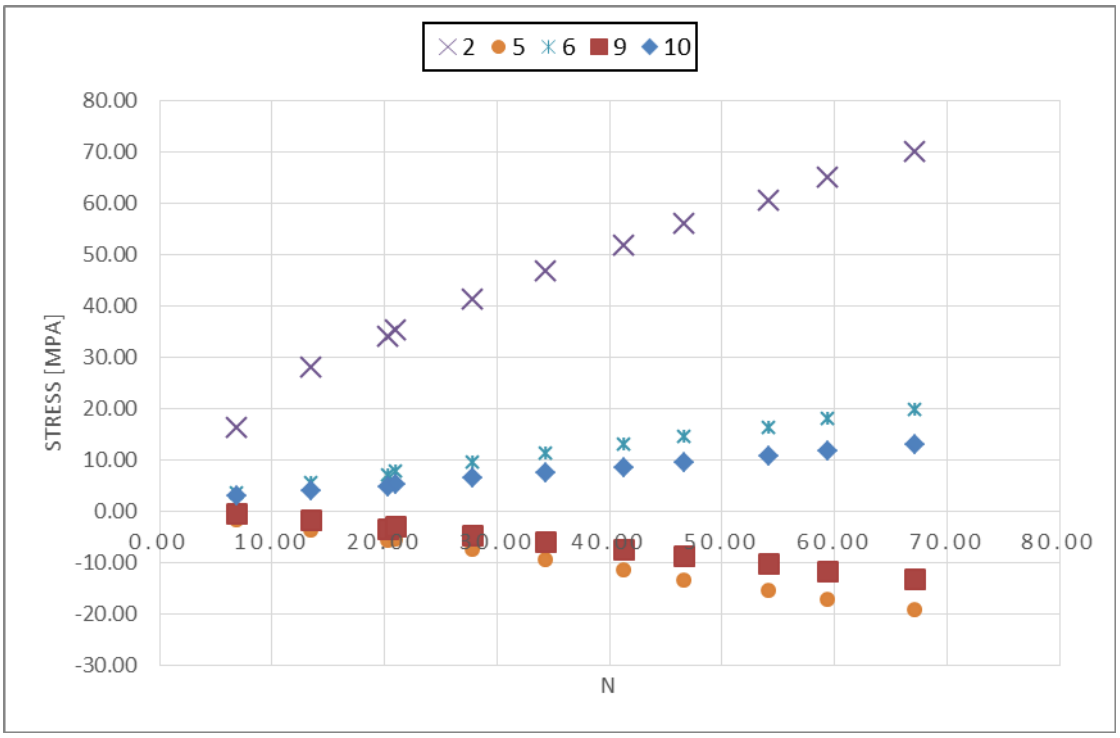
Graphs showing the stress (in [MPa]) measured in each strain gauge channel. Graph have been grouped such that more significant channels are plotted together.

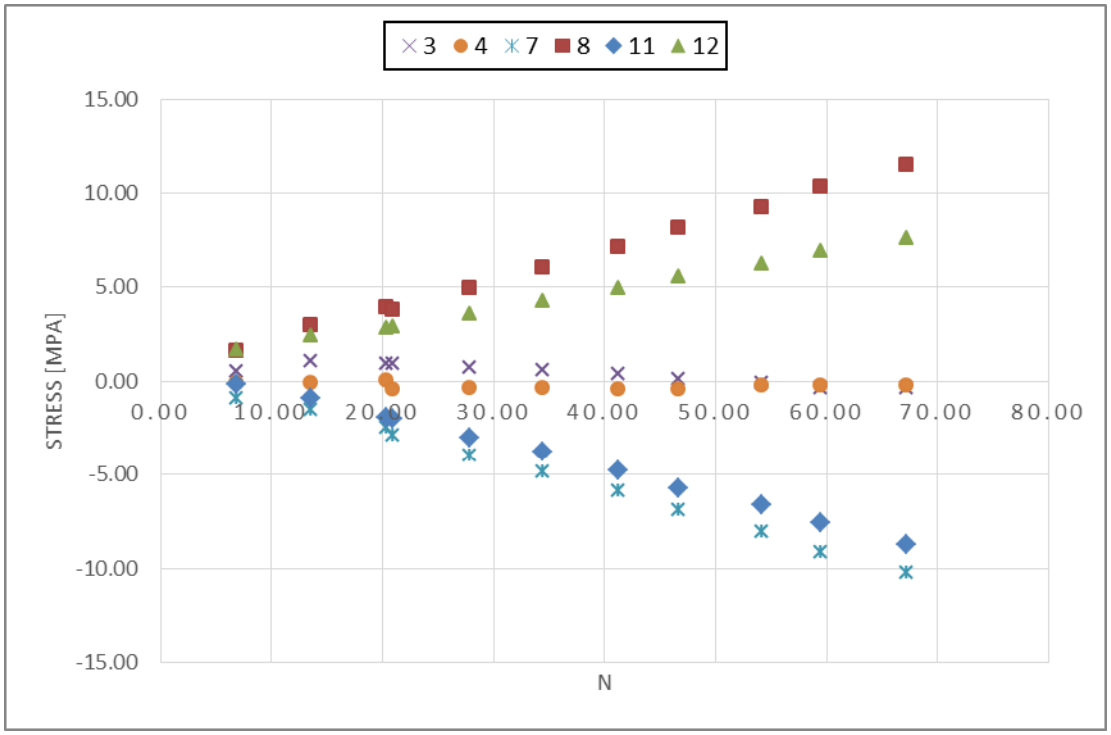
All data are also reported in Appendix C

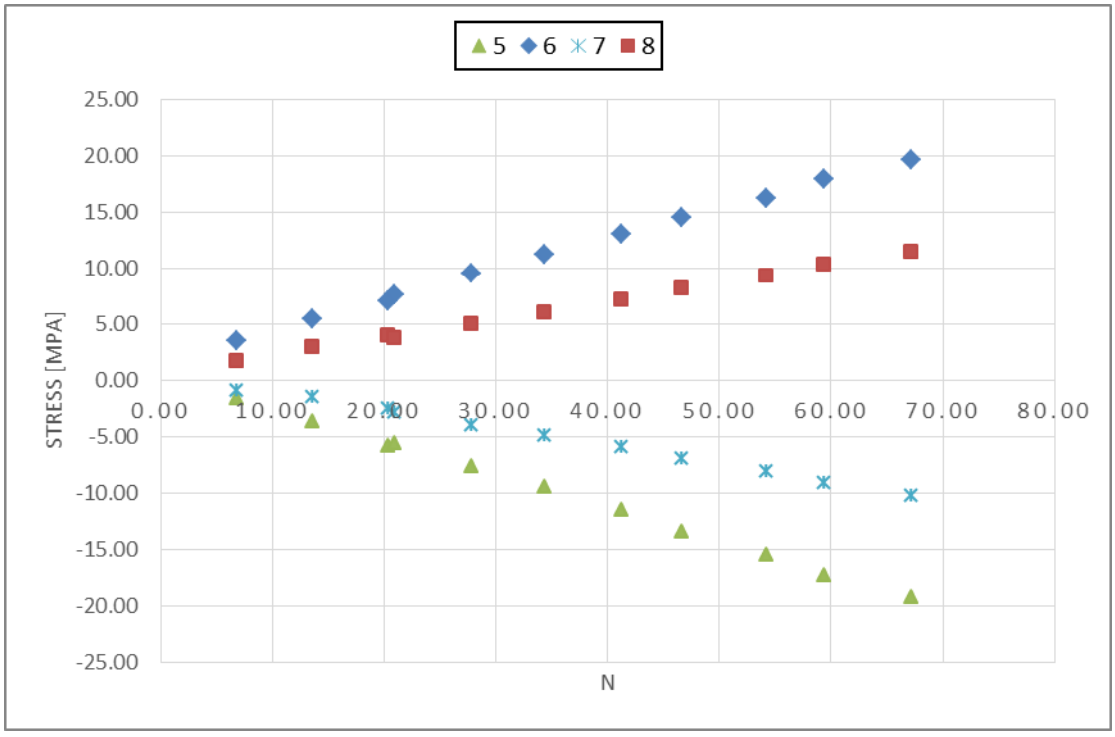

2
3
4
13
14
80.00
60.00
40.00
20.00
0.00
-20.00
-40.00
STRESS [MPA]
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
N
Stress at N=60
Rear spar stress (3/4) is very small

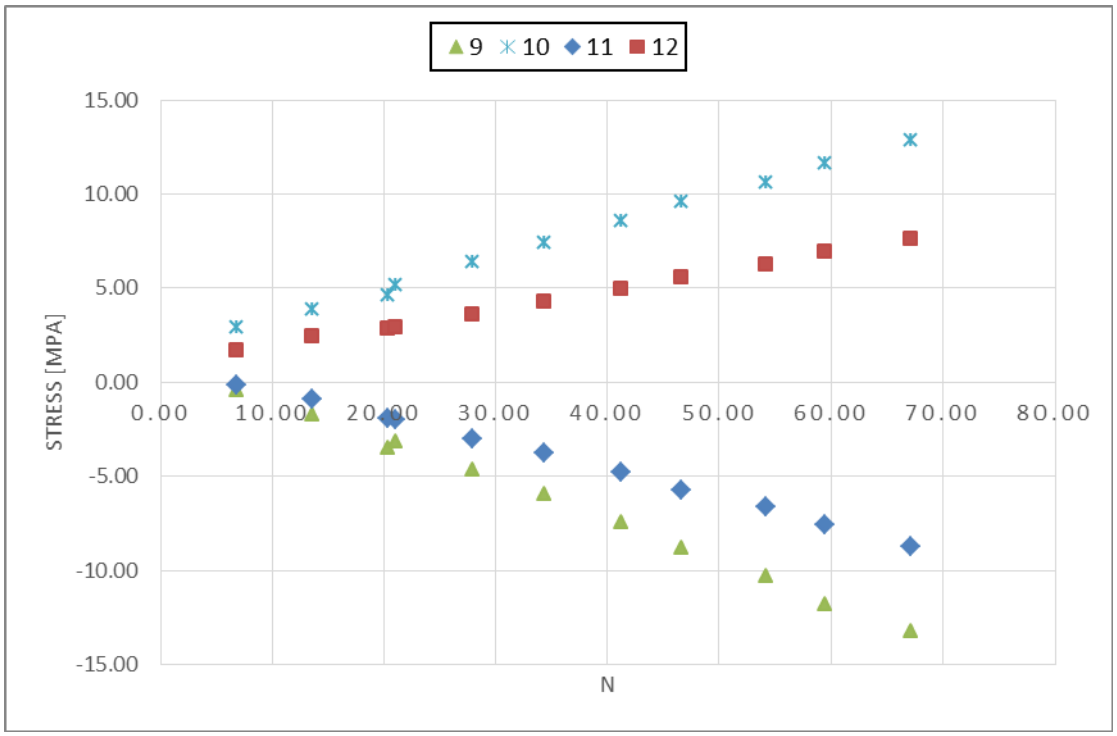

2
15
R16 B
80.00
60.00
40.00
20.00
0.00
-20.00
-40.00
-60.00
-80.00
-100.00
-120.00
-140.00
STRESS [MPA]
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
N
Highest stress on the skin (15)

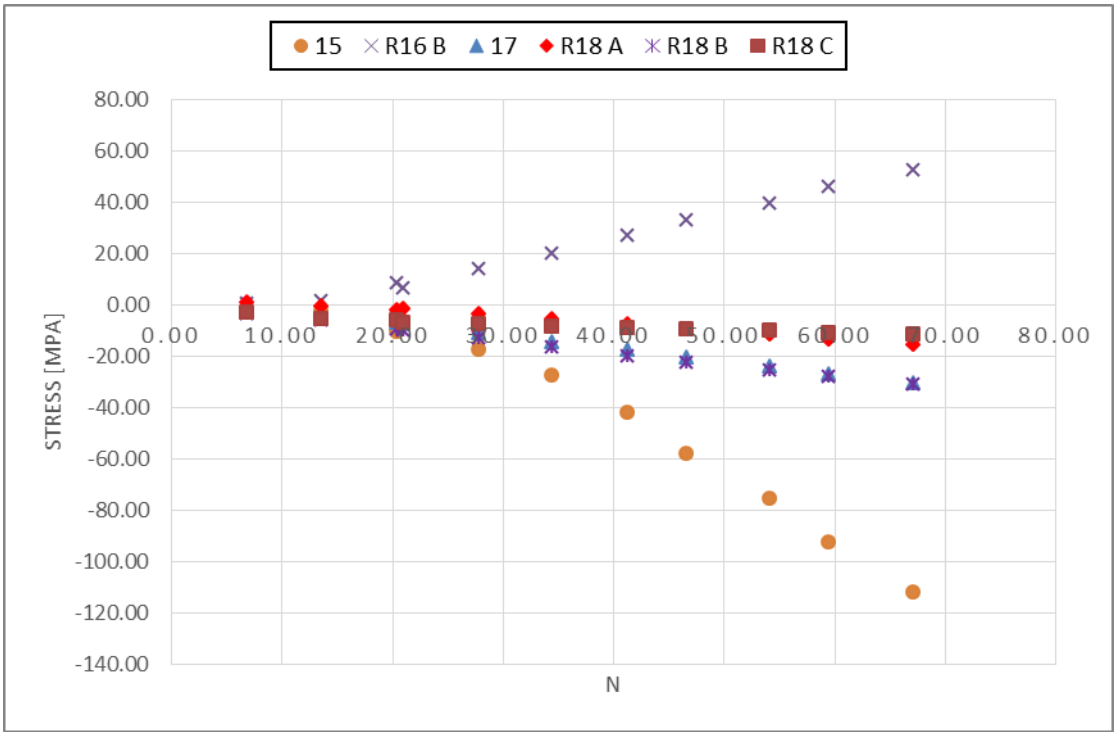

R16 A
R16 B
R16 C
R19 A
R19 B
R19 C
STRESS [MPA]
N
60.00
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00


2
5
6
9
10
STRESS [MPA]
N
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00


3
4
7
8
11
12
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
STRESS [MPA]
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
N


5
6
7
8
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
STRESS [MPA]
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
N


9
10
11
12
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
STRESS [MPA]
N


15
R16 B
17
R18 A
R18 B
R18 C
80.00
60.00
40.00
20.00
0.00
-20.00
-40.00
-60.00
-80.00
-100.00
-120.00
-140.00
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
STRESS [MPA]
N

6.6 Measurement of model deformation at alpha=6°

The model deformation has been measured at the following conditions:

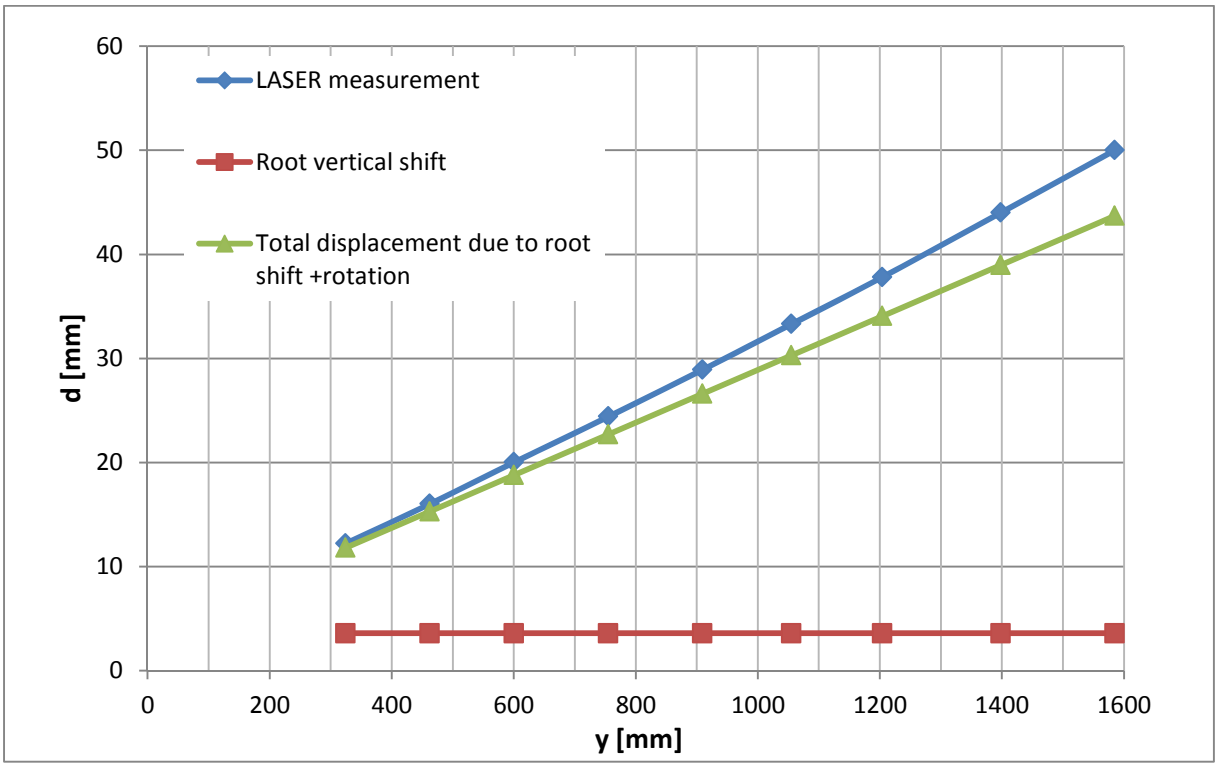
V = 40 m/s, alpha_g = 6°, alpha_c = 7° N = 60 Kg

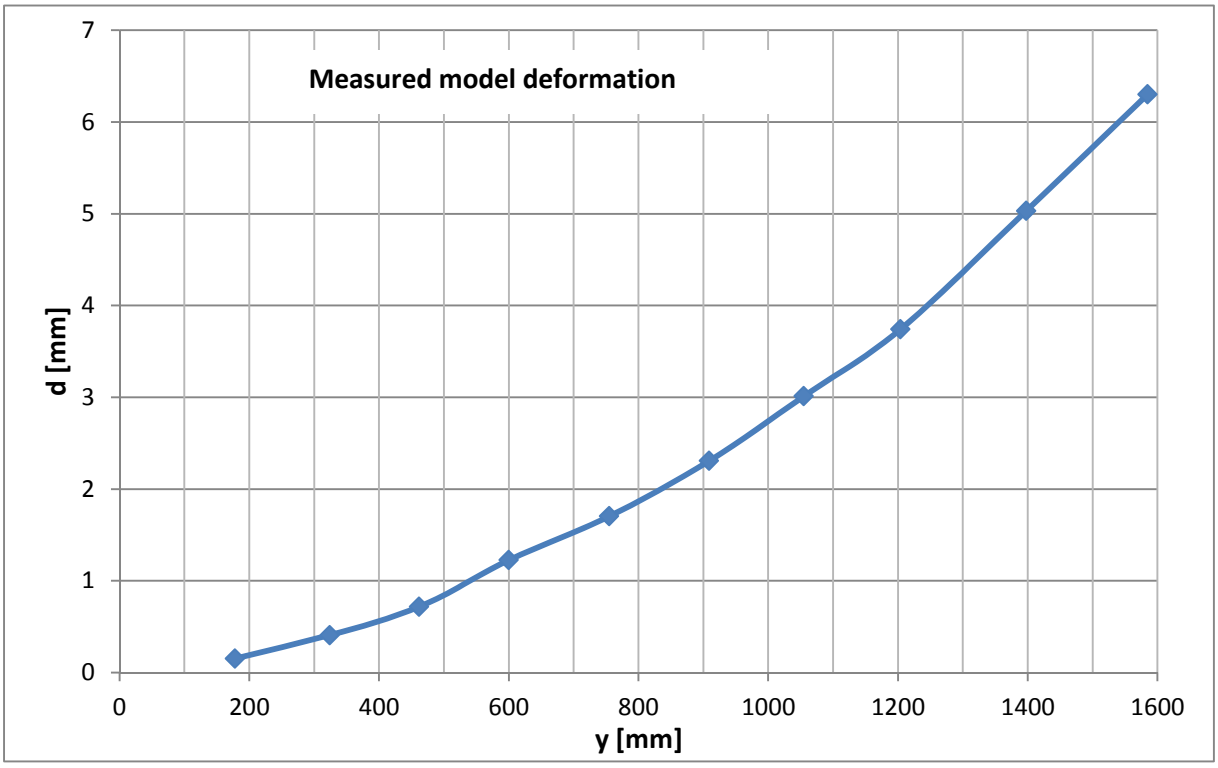
RESULTS

For all repeated tests the angle of attack was fixed at about 6 deg, the air speed was about 39 m/s and the Normal force about 60 Kgf and the bending moment measured through the balance was about 55 Kgf*m. The following table reports the obtained results.

The rotation of the root has been measured through a precision inclinometer "Midori precison" mounted on the Alluminum rib at the model wing root. The vertical displacement of the model wing root has been also measured through a micro-meter comparator. Therefore, the total vertical rigid displacement (due to root rotationa nd root vertical mouvement) can be calculated (see column (Total Vertical shift). The final model deformation can be estimated subtracting this total vertical shift to the Laser displacement measured in each marker.

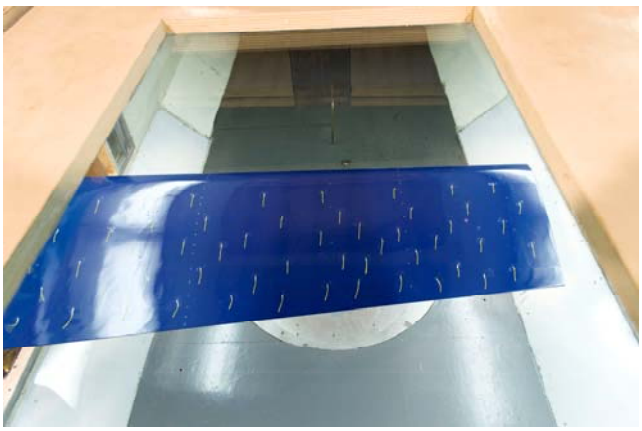
MARK	y [mm]	V	Normal Force	Root Inclinom Midori	LASER Measurem	Vertical root displacement (micro-meter comparator)	Total vertical shift	Shift due to only Root ROT	**Deformation**
		[m/s]	[Kgf]	[deg]	[mm]	[mm]	[mm]	[mm]	[mm]
11	1585	39.20	60.3	1.45	50.00	3.594	43.70	40.10	6.30
10	1398	39.20	60.3	1.45	44.00	3.590	38.96	35.37	5.04
9	1204	39.20	60.3	1.45	37.8	3.590	34.05	30.46	3.75
8	1055	39.20	60.3	1.45	33.30	3.590	30.28	26.69	3.02
7	909	39.20	60.3	1.45	28.90	3.590	26.59	23.00	2.31
6	755	39.20	60.3	1.45	24.40	3.590	22.69	19.10	1.71
5	600	39.20	60.3	1.45	20.00	3.590	18.77	15.18	1.23
4	462	39.20	60.3	1.45	16.00	3.590	15.28	11.69	0.72
3	324	39.20	60.3	1.45	12.20	3.590	11.79	8.20	0.41
2	178	39.20	60.3	1.45	8.25	3.590	8.09	4.50	0.16
1	35	39.20	60.3	1.45		3.590	4.48	0.89	


LASER measurement
Root vertical shift
Total displacement due to root shift +rotation
d [mm]
y [mm]
0
10
20
30
40
50
60
0
200
400
600
800
1000
1200
1400
1600

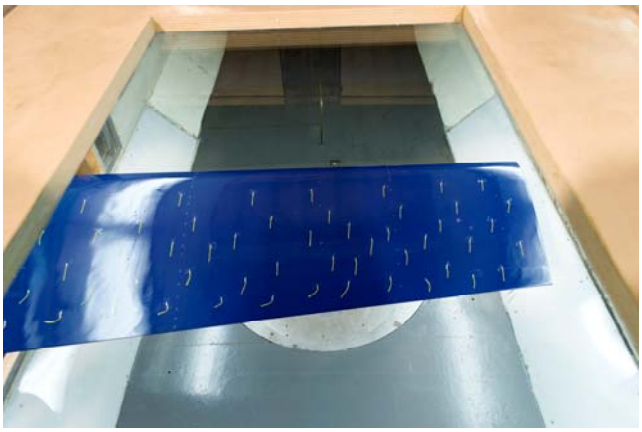

Measured model deformation
d [mm]
y [mm]
0
1
2
3
4
5
6
7
0
200
400
600
800
1000
1200
1400
1600

6.7 Visualization with tufts

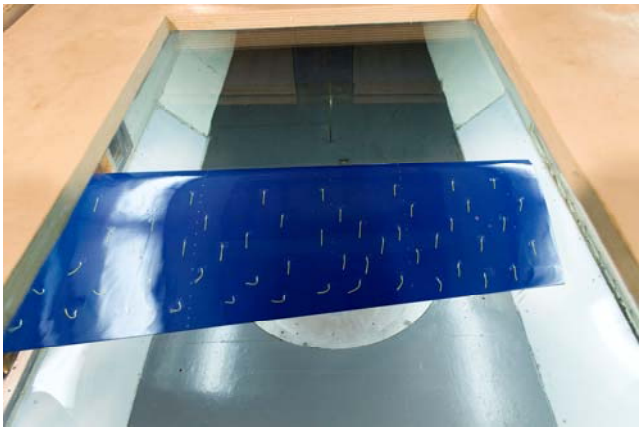
The model (with transition trip installed) has been covered with tufts to visualize flow separation and high angles of attack.



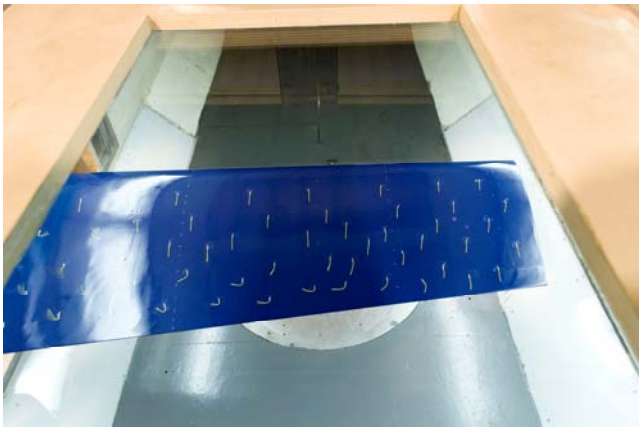
V=30 m/s , alpha(geom)=10°



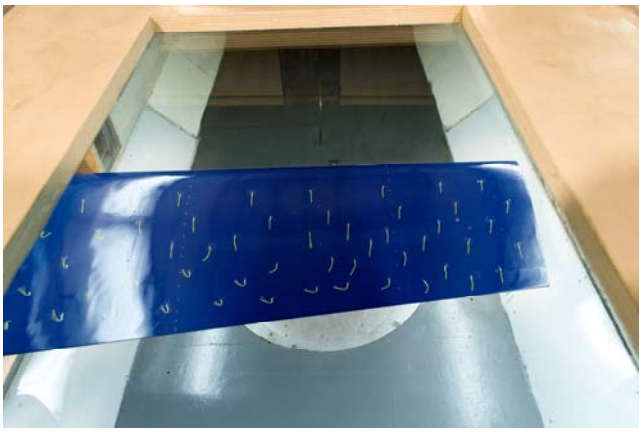
V=30 m/s , alpha(geom)=12°



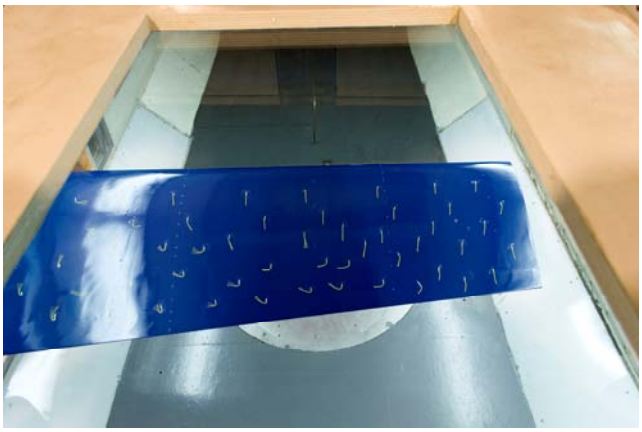
V=30 m/s , alpha(geom)=13°



V=30 m/s , alpha(geom)=14°



V=30 m/s , alpha(geom)=14.5°



V=30 m/s , alpha(geom)=15.5°

7 APPENDIX A. Forces and Aerodynamic coefficients

7.1 TEST L30 V=30 m/s clean model (Laminar flow)

									Measured Forces and Moments								Aerod Coefficients				Corrected Aerod coeff					
	q	q_corr	V	V_corr	Temp	Rey	Alfa	Alfa_cor	N	Mfl	Yaw	Yaw_roc	D	Mycb= My-My_tar	Mypolo	Mfl root	Alfa	CL	CD	CMy polo	Alfa_c	CLc	CDc	CMyc polo	eta	eta drag
Id angle	[Pa]	[Pa]	[m/s]	[m/s]	[°C]		[°]	[°]	[kg]	[kgm]	[kgm]	[kg*m]	[Kg]	[kg*m]	[kg*m]	Kg m	[°]				[°]					
2	555.55	562.77	30.12	30.31	25.9	1.00E+06	-1.93	-1.80	4.856	4.455	0.552	0.448	0.619	-1.280	-1.428	3.644	-1.93	0.105	0.01339	-0.05995	-1.8	0.104	0.01340	-0.05967	0.469	0.452
3	552.91	560.10	30.05	30.24	25.5	1.00E+06	-0.95	-0.71	8.715	7.806	0.583	0.477	0.639	-1.133	-1.407	6.350	-0.95	0.189	0.01389	-0.05938	-0.71	0.187	0.01444	-0.05890	0.455	0.467
1	555.37	562.59	30.11	30.31	26.2	1.00E+06	-0.03	0.30	12.364	10.918	0.634	0.519	0.684	-1.002	-1.396	8.853	-0.03	0.268	0.01482	-0.05865	0.3	0.264	0.01614	-0.05796	0.448	0.475
4	550.88	558.05	29.99	30.18	25.7	1.00E+06	0.08	0.43	12.786	11.276	0.635	0.521	0.685	-0.978	-1.386	9.140	0.08	0.279	0.01495	-0.05871	0.43	0.275	0.01641	-0.05782	0.447	0.475
5	550.45	557.61	29.98	30.17	25.6	1.00E+06	1.08	1.55	16.817	14.715	0.708	0.582	0.757	-0.821	-1.361	11.907	1.08	0.367	0.01653	-0.05769	1.55	0.363	0.01923	-0.05651	0.443	0.480
6	549.75	556.90	29.96	30.15	26.1	9.97E+05	2.01	2.58	20.546	17.936	0.793	0.652	0.843	-0.642	-1.304	14.504	2.01	0.449	0.01845	-0.05532	2.58	0.444	0.02259	-0.05506	0.441	0.483
7	549.83	556.98	29.96	30.16	25.6	1.00E+06	3.09	3.77	24.783	21.659	0.920	0.758	0.974	-0.478	-1.277	17.521	3.09	0.542	0.02128	-0.05418	3.77	0.535	0.02741	-0.05312	0.442	0.486
8	551.53	558.70	30.01	30.20	25.8	1.00E+06	4.01	4.79	28.422	24.915	1.057	0.871	1.113	-0.298	-1.214	20.168	4.01	0.62	0.02426	-0.05137	4.79	0.612	0.03232	-0.05122	0.444	0.489
9	550.87	558.03	29.99	30.18	26.0	9.98E+05	4.95	5.85	32.724	28.805	1.202	0.993	1.255	-0.241	-1.297	23.340	4.95	0.714	0.02740	-0.05491	5.85	0.705	0.03820	-0.05386	0.446	0.494
10	547.67	554.79	29.90	30.10	26.1	9.95E+05	6.04	7.06	36.904	32.649	1.409	1.166	1.454	-0.040	-1.229	26.486	6.04	0.81	0.03191	-0.05237	7.06	0.8	0.04586	-0.05214	0.449	0.501
11	547.48	554.60	29.90	30.09	26.2	9.94E+05	6.97	8.08	40.169	35.685	1.634	1.356	1.664	0.131	-1.163	28.977	6.97	0.882	0.03654	-0.04954	8.08	0.871	0.05312	-0.04890	0.451	0.509
12	545.91	553.01	29.85	30.05	26.4	9.92E+05	7.94	9.14	43.212	38.544	1.906	1.586	1.913	0.328	-1.060	31.328	7.94	0.952	0.04214	-0.04531	9.14	0.939	0.06144	-0.04488	0.453	0.518
13	542.96	550.02	29.77	29.97	26.1	9.90E+05	9.01	10.30	46.334	41.507	2.240	1.871	2.212	0.560	-0.926	33.769	9.01	1.026	0.04898	-0.03977	10.3	1.013	0.07143	-0.03975	0.456	0.529
14	542.13	549.18	29.75	29.94	26.1	9.89E+05	10.04	11.42	49.303	44.368	2.615	2.190	2.547	0.774	-0.802	36.134	10.04	1.093	0.05649	-0.03452	11.42	1.079	0.08198	-0.03382	0.458	0.537
15	543.26	550.32	29.78	29.97	26.2	9.90E+05	11.07	12.50	51.395	46.506	3.065	2.572	2.957	0.993	-0.643	37.923	11.07	1.137	0.06544	-0.02762	12.5	1.123	0.09298	-0.02759	0.461	0.544
16	541.22	548.26	29.73	29.92	26.3	9.88E+05	11.94	13.43	53.036	48.298	3.444	2.890	3.313	1.131	-0.552	39.441	11.94	1.178	0.07359	-0.02381	13.43	1.163	0.10310	-0.02322	0.465	0.545
17	541.58	548.63	29.74	29.93	26.4	9.88E+05	12.47	13.98	53.887	49.311	3.692	3.098	3.559	1.192	-0.514	40.312	12.47	1.196	0.07898	-0.02214	13.98	1.181	0.10937	-0.02207	0.468	0.544
18	539.94	546.96	29.69	29.88	26.1	9.87E+05	13.00	14.52	54.308	49.981	3.930	3.294	3.806	1.183	-0.531	40.912	13	1.209	0.08474	-0.02294	14.52	1.194	0.11574	-0.02286	0.471	0.541
19	538.03	545.02	29.64	29.83	26.2	9.85E+05	13.54	15.08	54.813	50.808	4.161	3.482	4.064	1.110	-0.616	41.654	13.54	1.225	0.09079	-0.02670	15.08	1.209	0.12255	-0.02671	0.475	0.535
20	537.75	544.74	29.63	29.82	26.4	9.84E+05	14.03	15.59	55.193	51.559	4.380	3.657	4.329	0.947	-0.785	42.341	14.03	1.234	0.09678	-0.03407	15.59	1.218	0.12895	-0.03401	0.479	0.528
21	538.65	545.66	29.66	29.85	26.3	9.86E+05	14.51	16.07	55.421	52.216	4.594	3.824	4.609	0.669	-1.064	42.961	14.51	1.237	0.10289	-0.04610	16.07	1.221	0.13514	-0.04532	0.484	0.519
22	532.18	539.10	29.48	29.67	26.4	9.79E+05	16.22	17.78	55.029	54.091	5.055	4.122	5.585	-1.568	-3.267	44.902	16.22	1.243	0.12618	-0.14321	17.78	1.227	0.15849	-0.14092	0.510	0.461
23	534.94	541.90	29.55	29.74	26.3	9.82E+05	14.44	15.98	54.715	51.463	4.542	3.783	4.543	0.707	-1.005	42.326	14.44	1.23	0.10210	-0.04382	15.98	1.214	0.13396	-0.04281	0.483	0.520
24	533.18	540.11	29.50	29.70	26.5	9.79E+05	13.12	14.63	53.378	49.189	3.951	3.311	3.831	1.140	-0.543	40.275	13.12	1.204	0.08639	-0.02377	14.63	1.188	0.11706	-0.02333	0.472	0.540
25	532.77	539.70	29.49	29.68	26.3	9.80E+05	13.93	15.48	54.493	50.814	4.299	3.591	4.236	0.964	-0.747	41.714	13.93	1.23	0.09560	-0.03273	15.48	1.214	0.12756	-0.03207	0.478	0.530
26	528.62	535.50	29.38	29.57	26.2	9.77E+05	15.67	17.24	54.617	52.855	4.906	4.035	5.213	-0.570	-2.264	43.734	15.67	1.242	0.11856	-0.09992	17.24	1.226	0.15089	-0.09894	0.500	0.484

7.2 TEST L40 V=40 m/s clean model (Laminar flow)

									Measured Forces and Moments								Aerod Coefficients				Corrected Aerod coeff					
	q	q_corr	V	V_corr	Temp	Rey	Alfa	Alfa_cor	N	Mfl	Yaw	Yaw_root	D	Mycb= My-My_tara	Mypolo	Mfl root	Alfa	CL	CD	CMy polo	Alfa_c	CLc	CDc	CMyc polo	eta	eta drag
Id angle	[Pa]	[Pa]	[m/s]	[m/s]	[°C]		[°]	[°]	[kg]	[kg m]	[kg m]	[kg m]	[Kg]	[kg m]	[kg m]	[kg m]	[°]				[°]					
2	1007.02	1020.11	40.55	40.81	25.0	1.36E+06	-1.830	-1.690	9.334	8.474	1.069	0.869	1.193	-2.322	-2.605	6.916	-1.83	0.111	0.01424	-0.06035	-1.69	0.11	0.014271	-0.0595581	0.463	0.456
3	999.52	1012.51	40.40	40.66	25.0	1.35E+06	-0.980	-0.750	15.437	13.751	0.999	0.812	1.119	-2.086	-2.573	11.173	-0.98	0.186	0.01347	-0.06005	-0.75	0.183	0.01399	-0.0589531	0.452	0.454
1	1007.90	1021.01	40.57	40.83	25.0	1.36E+06	-0.010	0.330	22.514	19.791	1.049	0.862	1.124	-1.828	-2.549	16.031	-0.01	0.269	0.01340	-0.05899	0.33	0.265	0.014744	-0.0578925	0.445	0.479
5	993.44	1006.36	40.27	40.53	25.5	1.34E+06	0.060	0.400	22.675	19.921	1.039	0.854	1.109	-1.787	-2.513	16.134	0.06	0.274	0.01341	-0.05902	0.4	0.271	0.014833	-0.0578102	0.445	0.481
4	993.55	1006.47	40.28	40.54	25.2	1.35E+06	1.050	1.510	30.001	26.216	1.166	0.970	1.176	-1.442	-2.409	21.205	1.05	0.363	0.01423	-0.05656	1.51	0.358	0.016883	-0.0562869	0.442	0.515
6	993.56	1006.48	40.28	40.54	25.4	1.35E+06	1.060	1.520	30.207	26.395	1.165	0.969	1.175	-1.460	-2.434	21.351	1.06	0.366	0.01422	-0.05715	1.52	0.361	0.016907	-0.0562713	0.442	0.515
7	988.73	1001.59	40.18	40.44	25.2	1.34E+06	2.030	2.590	36.571	31.958	1.352	1.132	1.313	-1.162	-2.344	25.851	2.03	0.445	0.01598	-0.05531	2.59	0.439	0.020045	-0.0544085	0.442	0.539
8	981.43	994.19	40.03	40.29	25.3	1.34E+06	3.030	3.700	43.708	38.314	1.570	1.317	1.510	-0.822	-2.236	31.014	3.03	0.535	0.01850	-0.05315	3.7	0.529	0.024494	-0.0520706	0.443	0.545
9	979.22	991.95	39.98	40.24	25.6	1.33E+06	3.960	4.720	48.978	43.085	1.836	1.536	1.796	-0.538	-2.120	34.906	3.96	0.601	0.02205	-0.05050	4.72	0.594	0.029654	-0.0495584	0.445	0.534
10	977.59	990.30	39.95	40.21	25.7	1.33E+06	4.990	5.890	58.306	51.413	2.073	1.721	2.108	-0.289	-2.173	41.676	4.99	0.717	0.02592	-0.05185	5.89	0.708	0.036837	-0.0515115	0.447	0.510
11	970.79	983.41	39.81	40.07	25.9	1.33E+06	5.930	6.920	63.397	55.817	2.401	1.981	2.518	-0.021	-2.064	45.230	5.93	0.785	0.03119	-0.04960	6.92	0.775	0.044278	-0.0493671	0.446	0.492

7.3 TEST T30 V=30 m/s Transition trips at x/c= 0.014

									Measured Forces and Moments								Aerod Coefficients				Corrected Aerod coeff					
Id angle	q [Pa]	q_corr [Pa]	V [m/s]	V_corr [m/s]	Temp [°C]	Rey	Alfa [°]	Alfa_cor [°]	N [kg]	Mfl [kgm]	Yaw [kgm]	Yaw_root [kg*m]	D [Kg]	Mycb= My-My_tara [kg*m]	Mypolo [kg*m]	Mfl root Kg m	Alfa [°]	CL	CD	CMy polo	Alfa_c [°]	CLc	CDc	CMyc polo	eta	eta drag
2	514.19	520.88	28.97	29.16	27.2	9.58E+05	-2.310	-2.220	2.846	2.704	0.446	0.362	0.503	-1.258	-1.341	2.229	-2.31	0.067	0.01175	-0.06086	-2.22	0.066	0.011642	-0.0600637	0.489	0.450
3	514.78	521.48	28.99	29.18	26.8	9.60E+05	-1.030	-0.810	7.610	6.842	0.554	0.453	0.607	-1.072	-1.311	5.571	-1.03	0.178	0.01419	-0.05941	-0.81	0.175	0.014639	-0.0583225	0.458	0.466
4	513.64	520.32	28.96	29.15	26.7	9.60E+05	-0.030	0.300	11.196	9.889	0.595	0.487	0.650	-0.925	-1.281	8.019	-0.03	0.262	0.01522	-0.05820	0.3	0.259	0.016472	-0.0573079	0.448	0.468
1	514.25	520.94	28.98	29.16	26.8	9.60E+05	-0.010	0.320	11.231	9.918	0.598	0.489	0.653	-0.921	-1.278	8.042	-0.01	0.263	0.01525	-0.05798	0.32	0.259	0.016508	-0.0572872	0.448	0.468
5	512.44	519.10	28.92	29.11	27.0	9.57E+05	1.050	1.490	15.102	13.263	0.648	0.529	0.708	-0.761	-1.246	10.741	1.05	0.354	0.01661	-0.05671	1.49	0.35	0.019093	-0.0558261	0.445	0.467
6	512.81	519.48	28.94	29.12	26.9	9.58E+05	2.020	2.570	18.678	16.410	0.727	0.594	0.797	-0.606	-1.207	13.290	2.02	0.438	0.01867	-0.05492	2.57	0.432	0.022577	-0.0540459	0.445	0.466
7	549.73	556.88	29.96	30.15	27.0	9.92E+05	3.000	3.660	23.835	20.985	0.906	0.740	0.992	-0.471	-1.238	17.005	3	0.521	0.02170	-0.05253	3.66	0.515	0.027341	-0.051971	0.446	0.466
8	546.91	554.02	29.88	30.08	27.1	9.88E+05	4.030	4.790	27.667	24.415	1.076	0.880	1.175	-0.293	-1.183	19.794	4.03	0.608	0.02582	-0.05048	4.79	0.6	0.033548	-0.0497206	0.447	0.468
9	547.15	554.27	29.89	30.08	27.0	9.89E+05	4.960	5.820	31.163	27.546	1.269	1.039	1.379	-0.133	-1.134	22.342	4.96	0.685	0.03029	-0.04835	5.82	0.676	0.040143	-0.0476892	0.448	0.471
10	546.97	554.08	29.88	30.08	27.0	9.89E+05	6.060	7.030	35.300	31.256	1.520	1.246	1.638	0.055	-1.078	25.361	6.06	0.776	0.03599	-0.04597	7.03	0.766	0.0487	-0.0453132	0.449	0.476
11	545.12	552.21	29.83	30.03	27.2	9.86E+05	7.000	8.070	38.828	34.438	1.739	1.429	1.856	0.224	-1.021	27.954	7	0.856	0.04094	-0.04368	8.07	0.845	0.056471	-0.0431397	0.450	0.481
12	542.82	549.88	29.77	29.96	27.1	9.85E+05	7.950	9.130	42.265	37.578	1.968	1.621	2.075	0.404	-0.949	30.520	7.95	0.936	0.04596	-0.04081	9.13	0.924	0.064576	-0.0405892	0.451	0.488
13	540.36	547.39	29.70	29.89	27.2	9.82E+05	9.010	10.290	45.665	40.760	2.236	1.848	2.320	0.592	-0.869	33.134	9.01	1.016	0.05162	-0.03751	10.29	1.003	0.073576	-0.0371956	0.453	0.498
14	536.23	543.21	29.59	29.78	27.2	9.78E+05	10.030	11.390	48.389	43.417	2.508	2.081	2.556	0.781	-0.765	35.336	10.03	1.085	0.05730	-0.03329	11.39	1.071	0.08238	-0.033376	0.456	0.509
15	537.27	544.26	29.62	29.81	27.2	9.79E+05	11.030	12.470	51.028	46.099	2.857	2.380	2.856	0.950	-0.676	37.578	11.03	1.142	0.06392	-0.02937	12.47	1.127	0.091704	-0.0294324	0.460	0.521
16	537.69	544.68	29.63	29.82	27.5	9.77E+05	11.930	13.430	53.233	48.476	3.225	2.695	3.175	1.066	-0.627	39.586	11.93	1.19	0.07100	-0.02719	13.43	1.175	0.101171	-0.0265604	0.465	0.530
17	534.23	541.17	29.53	29.72	27.4	9.75E+05	12.560	14.090	53.744	49.279	3.531	2.955	3.450	1.106	-0.597	40.304	12.56	1.209	0.07765	-0.02607	14.09	1.194	0.108745	-0.0256025	0.469	0.535
18	535.44	542.40	29.57	29.76	27.6	9.75E+05	12.990	14.540	54.831	50.557	3.765	3.153	3.670	1.129	-0.606	41.400	12.99	1.231	0.08240	-0.02640	14.54	1.215	0.114605	-0.0257792	0.472	0.537
19	535.71	542.67	29.57	29.77	27.7	9.75E+05	13.530	15.100	55.558	51.649	4.107	3.438	4.008	1.116	-0.636	42.371	13.53	1.247	0.08994	-0.02768	15.1	1.231	0.122904	-0.0273696	0.477	0.536
20	530.98	537.88	29.44	29.63	27.6	9.71E+05	14.040	15.620	55.445	52.023	4.427	3.700	4.351	1.029	-0.711	42.763	14.04	1.255	0.09852	-0.03122	15.62	1.239	0.131839	-0.0306938	0.482	0.532
21	530.16	537.05	29.42	29.61	27.8	9.69E+05	14.470	16.060	55.519	52.580	4.747	3.958	4.723	0.912	-0.822	43.309	14.47	1.259	0.10711	-0.03617	16.06	1.243	0.14052	-0.0353311	0.488	0.524
22	530.14	537.03	29.42	29.61	27.9	9.68E+05	15.130	16.700	54.856	52.828	5.279	4.374	5.423	0.651	-1.046	43.667	15.13	1.244	0.12298	-0.04604	16.7	1.228	0.15536	-0.0459627	0.498	0.504
23	526.50	533.34	29.32	29.51	27.8	9.66E+05	16.440	17.980	53.751	54.354	6.046	4.844	7.195	-0.375	-1.996	45.378	16.44	1.227	0.16429	-0.08846	17.98	1.212	0.195238	-0.0869835	0.528	0.421

7.4 TEST T35 V=35 m/s Transition trips at x/c= 0.014

									Measured Forces and Moments								Aerod Coefficients				Corrected Aerod coeff					
Id angle	q [Pa]	q_corr [Pa]	V [m/s]	V_corr [m/s]	Temp [°C]	Rey	Alfa [°]	Alfa_cor [°]	N [kg]	Mfl [kgm]	Yaw [kgm]	Yaw_root [kg*m]	D [Kg]	Mycb= My-My_tara [kg*m]	Mypolo [kg*m]	Mfl root Kg m	Alfa [°]	CL	CD	CMy polo	Alfa_c [°]	CLc	CDc	CMyc polo	eta	eta drag
5	761.36	771.26	35.26	35.49	23.9	1.19E+06	-2.600	-2.550	2.457	2.331	0.704	0.571	0.793	-1.924	-1.988	1.921	-2.6	0.039	0.01252	-0.06091	-2.55	0.038	0.012335	-0.0600089	0.489	0.450
4	762.89	772.81	35.29	35.52	24.0	1.19E+06	-1.990	-1.880	5.765	5.324	0.724	0.590	0.807	-1.804	-1.978	4.362	-1.99	0.091	0.01271	-0.06048	-1.88	0.09	0.012671	-0.0592724	0.473	0.457
3	764.04	773.97	35.32	35.55	23.7	1.19E+06	-1.030	-0.820	10.889	9.773	0.776	0.633	0.853	-1.604	-1.946	7.955	-1.03	0.171	0.01341	-0.05942	-0.82	0.169	0.013819	-0.0580112	0.457	0.464
1	771.58	781.62	35.49	35.72	23.5	1.20E+06	-0.080	0.240	16.113	14.228	0.860	0.703	0.937	-1.415	-1.928	11.538	-0.08	0.251	0.01461	-0.05829	0.24	0.248	0.015737	-0.0565791	0.448	0.469
2	765.04	774.99	35.34	35.57	23.8	1.19E+06	0.040	0.370	16.710	14.734	0.865	0.708	0.942	-1.375	-1.908	11.943	0.04	0.263	0.01480	-0.05817	0.37	0.259	0.016065	-0.0563662	0.447	0.470
6	759.57	769.45	35.22	35.44	24.0	1.19E+06	0.150	0.490	17.327	15.257	0.874	0.715	0.950	-1.333	-1.886	12.363	0.15	0.274	0.01504	-0.05793	0.49	0.271	0.01644	-0.0561301	0.446	0.470
7	757.08	766.93	35.16	35.39	23.8	1.19E+06	0.980	1.410	21.806	19.110	0.968	0.793	1.050	-1.143	-1.842	15.468	0.98	0.346	0.01667	-0.05675	1.41	0.342	0.019027	-0.0546531	0.443	0.472
8	755.86	765.69	35.13	35.36	24.1	1.18E+06	2.060	2.610	27.598	24.195	1.125	0.922	1.217	-0.894	-1.780	19.586	2.06	0.439	0.01934	-0.05495	2.61	0.433	0.02326	-0.0525597	0.444	0.473
9	751.27	761.04	35.02	35.25	24.2	1.18E+06	3.000	3.660	32.347	28.459	1.283	1.051	1.386	-0.672	-1.713	23.057	3	0.518	0.02217	-0.05318	3.66	0.511	0.027711	-0.0505868	0.445	0.474
10	749.50	759.25	34.98	35.21	24.3	1.18E+06	4.010	4.770	37.639	33.280	1.492	1.224	1.609	-0.435	-1.646	26.994	4.01	0.604	0.02581	-0.05123	4.77	0.596	0.033431	-0.04825	0.448	0.475
11	747.79	757.51	34.94	35.17	24.0	1.18E+06	5.020	5.880	42.520	37.760	1.722	1.413	1.850	-0.207	-1.574	30.659	5.02	0.684	0.02973	-0.04912	5.88	0.675	0.039562	-0.0459039	0.451	0.478
12	746.44	756.15	34.91	35.14	24.1	1.18E+06	5.950	6.920	47.554	42.379	1.995	1.640	2.128	0.027	-1.501	34.437	5.95	0.766	0.03427	-0.04690	6.92	0.756	0.046666	-0.0433248	0.453	0.482
13	743.74	753.41	34.85	35.07	24.3	1.17E+06	7.050	8.130	53.157	47.501	2.358	1.944	2.479	0.298	-1.407	38.624	7.05	0.859	0.04008	-0.04413	8.13	0.848	0.055743	-0.0401831	0.454	0.490
14	742.37	752.02	34.81	35.04	24.4	1.17E+06	8.020	9.190	57.448	51.420	2.683	2.219	2.778	0.512	-1.329	41.827	8.02	0.93	0.04498	-0.04176	9.19	0.918	0.06337	-0.0376419	0.455	0.499
15	738.87	748.47	34.73	34.96	24.4	1.17E+06	8.960	10.250	62.715	56.298	3.159	2.627	3.183	0.782	-1.224	45.824	8.96	1.02	0.05180	-0.03864	10.25	1.007	0.07397	-0.0342236	0.457	0.516

7.5 TEST T40 V=40 m/s Transition trips at x/c= 0.014

									Measured Forces and Moments								Aerod Coefficients				Corrected Aerod coeff					
Id angle	q [Pa]	q_corr [Pa]	V [m/s]	V_corr [m/s]	Temp [°C]	Rey	Alfa [°]	Alfa_cor [°]	N [kg]	Mfl [kgm]	Yaw [kgm]	Yaw_root [kg*m]	D [Kg]	Mycb= My-My_tara [kg*m]	Mypolo [kg*m]	Mfl root Kg m	Alfa [°]	CL	CD	CMy polo	Alfa_c [°]	CLc	CDc	CMyc polo	eta	eta drag
3	968.24	980.83	39.76	40.02	25.6	1.33E+06	-2.050	-1.940	6.839	6.181	1.115	0.915	1.195	-2.279	-2.479	5.039	-2.05	0.085	0.01484	-0.05973	-1.94	0.084	0.014743	-0.0585337	0.460	0.479
2	971.97	984.61	39.84	40.09	25.7	1.33E+06	-1.060	-0.850	13.536	12.042	1.039	0.849	1.137	-2.018	-2.441	9.782	-1.06	0.167	0.01408	-0.05859	-0.85	0.165	0.014446	-0.0577888	0.452	0.467
1	972.97	985.62	39.86	40.11	25.6	1.33E+06	-0.070	0.250	20.370	17.941	1.049	0.857	1.151	-1.746	-2.395	14.540	-0.07	0.252	0.01422	-0.05742	0.25	0.248	0.015369	-0.0566267	0.446	0.465
4	960.36	972.85	39.60	39.85	25.9	1.32E+06	0.030	0.360	20.989	18.470	1.043	0.852	1.143	-1.690	-2.360	14.964	0.03	0.263	0.01431	-0.05734	0.36	0.259	0.015584	-0.0564424	0.446	0.466
5	955.44	967.86	39.50	39.75	25.8	1.32E+06	1.050	1.490	27.873	24.419	1.145	0.938	1.241	-1.362	-2.257	19.765	1.05	0.351	0.01562	-0.05512	1.49	0.346	0.018056	-0.0547349	0.443	0.472
6	953.88	966.29	39.46	39.72	26.0	1.31E+06	2.050	2.590	34.378	30.105	1.321	1.085	1.413	-1.085	-2.192	24.364	2.05	0.433	0.01779	-0.05362	2.59	0.428	0.021634	-0.0527195	0.443	0.480
7	949.27	961.61	39.37	39.62	26.0	1.31E+06	3.040	3.700	41.261	36.209	1.577	1.298	1.670	-0.736	-2.066	29.318	3.04	0.523	0.02115	-0.05077	3.7	0.516	0.026822	-0.0501183	0.444	0.486
8	941.70	953.95	39.21	39.46	26.4	1.30E+06	4.000	4.750	46.616	41.015	1.819	1.496	1.929	-0.453	-1.954	33.230	4	0.595	0.02463	-0.04840	4.75	0.587	0.032025	-0.0476888	0.446	0.485
9	941.49	953.73	39.21	39.46	26.3	1.30E+06	5.010	5.880	54.178	47.827	2.192	1.794	2.384	-0.069	-1.810	38.779	5.01	0.692	0.03044	-0.04484	5.88	0.683	0.040504	-0.0439342	0.447	0.470
10	937.83	950.03	39.13	39.38	26.6	1.30E+06	5.960	6.920	59.420	52.519	2.436	1.975	2.761	0.244	-1.663	42.596	5.96	0.762	0.03539	-0.04136	6.92	0.752	0.047625	-0.0409019	0.448	0.447
11	935.78	947.95	39.09	39.34	26.6	1.30E+06	7.030	8.120	67.153	59.259	2.686	2.117	3.404	0.685	-1.463	48.044	7.03	0.863	0.04372	-0.03647	8.12	0.852	0.059467	-0.0360122	0.447	0.389

8 APPENDIX B. Pressure coefficients

8.1 TEST L30: V=30 m/s, clean model (Laminar flow)

	SEC C			SEC E	
alfa cor [°]	Cl_corr	Cm_corr		Cl_corr	Cm_corr
0.3	0.27061	-0.05909		0.25297	-0.06312
-1.8	0.10016	-0.06133		0.11042	-0.06768
-0.71	0.18884	-0.06009		0.18476	-0.06539
0.43	0.28194	-0.05905		0.26183	-0.06297
1.55	0.37575	-0.05781		0.3417	-0.06172
2.58	0.46276	-0.05661		0.41884	-0.06105
3.77	0.56047	-0.05503		0.49975	-0.05887
4.79	0.64203	-0.05374		0.57055	-0.05786
5.85	0.73585	-0.05474		0.64419	-0.05571
7.06	0.83503	-0.05196		0.73445	-0.05625
8.08	0.91222	-0.04848		0.80275	-0.05528
9.14	0.98486	-0.04371		0.87108	-0.05347
10.3	1.06118	-0.03777		0.94726	-0.05017
11.42	1.12857	-0.03153		1.0166	-0.04583
12.5	1.18137	-0.02504		1.07985	-0.0406
13.43	1.21217	-0.0204		1.1297	-0.03587
13.98	1.22698	-0.0191		1.15744	-0.03324
14.52	1.23901	-0.0194		1.18407	-0.03111
15.08	1.25097	-0.02156		1.2125	-0.02924
15.59	1.25886	-0.02468		1.23888	-0.02786
16.07	1.2667	-0.03035		1.26425	-0.02711
17.78	1.22083	-0.04879		1.35201	-0.02968
17.24	1.25385	-0.04958		1.32394	-0.02778
18.64	1.18292	-0.05011		1.39174	-0.03504

Cp SECTION C

			Cp CORR																		
SECTION C (y=600 mm)			alpha_c																		
x/c	z/c		-1.8	-0.3	0.43	1.55	2.58	3.77	4.79	5.85	7.06	8.08	9.14	10.3	11.42	12.5	13.43	14.52	15.59	16.07	17.24	18.64
0.994969	0.001263		0.09283	0.098855	0.099155	0.100951	0.102774	0.104367	0.105086	0.08496	0.083084	0.077118	0.061948	0.037217	-0.00028	-0.05733	-0.13005	-0.22771	-0.32018	-0.36202	-0.46075	-0.52237
0.976994	0.005452		0.0779	0.081882	0.08199	0.08294	0.084095	0.085142	0.085808	0.066188	0.06478	0.060026	0.047376	0.025933	-0.00853	-0.06251	-0.13186	-0.22865	-0.32372	-0.36723	-0.47298	-0.52925
0.93663	0.012821		0.040574	0.03945	0.03908	0.037913	0.037396	0.037079	0.037613	0.019256	0.019019	0.017298	0.010947	-0.00228	-0.02917	-0.07545	-0.13638	-0.23099	-0.33256	-0.38026	-0.50358	-0.54644
0.829636	0.032182		-0.07986	-0.09425	-0.0957	-0.10325	-0.10939	-0.1153	-0.11865	-0.13594	-0.13739	-0.1347	-0.12829	-0.11983	-0.11602	-0.12684	-0.15932	-0.23122	-0.32181	-0.37033	-0.51232	-0.54738
0.758801	0.043953		-0.13731	-0.1615	-0.16338	-0.17631	-0.18726	-0.19856	-0.20654	-0.22668	-0.23348	-0.23475	-0.2302	-0.21986	-0.20616	-0.19244	-0.19555	-0.24019	-0.32041	-0.3688	-0.51164	-0.53709
0.689936	0.055046		-0.20849	-0.2415	-0.24373	-0.26176	-0.27729	-0.29373	-0.30617	-0.32965	-0.34159	-0.34648	-0.34478	-0.33634	-0.32049	-0.29186	-0.26428	-0.27153	-0.32664	-0.3747	-0.51559	-0.53166
0.600385	0.066386		-0.2528	-0.29508	-0.29812	-0.32277	-0.34501	-0.36921	-0.38889	-0.41849	-0.44	-0.45373	-0.46219	-0.46502	-0.45921	-0.43565	-0.39705	-0.34886	-0.36444	-0.39703	-0.51785	-0.5249
0.553541	0.072063		-0.31252	-0.36003	-0.3638	-0.39146	-0.41725	-0.44599	-0.4697	-0.50283	-0.52893	-0.54572	-0.55755	-0.5642	-0.56176	-0.54038	-0.50024	-0.42901	-0.39754	-0.41803	-0.51516	-0.52134
0.488262	0.079029		-0.37526	-0.43817	-0.44263	-0.47608	-0.50707	-0.54296	-0.57341	-0.61408	-0.64938	-0.67346	-0.69318	-0.70838	-0.7146	-0.70209	-0.66892	-0.59373	-0.50568	-0.4917	-0.51546	-0.52126
0.420758	0.084152		-0.41784	-0.49835	-0.50416	-0.54766	-0.58629	-0.6284	-0.66469	-0.71328	-0.76	-0.79386	-0.82385	-0.8511	-0.86933	-0.8697	-0.84938	-0.79296	-0.70103	-0.65826	-0.52837	-0.52282
0.353123	0.087079		-0.472	-0.56989	-0.57707	-0.63124	-0.68116	-0.73539	-0.77999	-0.83633	-0.89588	-0.94157	-0.98295	-1.02297	-1.05481	-1.06865	-1.06131	-1.02453	-0.95227	-0.90487	-0.64609	-0.53675
0.289537	0.086404		-0.48258	-0.59736	-0.60569	-0.66979	-0.72986	-0.79717	-0.85473	-0.92071	-0.99195	-1.05157	-1.1067	-1.16203	-1.20826	-1.23707	-1.24367	-1.22651	-1.17696	-1.13724	-0.90761	-0.62487
0.240395	0.083356		-0.36615	-0.48776	-0.49655	-0.5669	-0.6338	-0.71017	-0.77828	-0.85397	-0.93401	-1.00347	-1.07242	-1.14623	-1.20913	-1.25601	-1.27897	-1.28434	-1.25984	-1.23227	-1.07234	-0.79824
0.164822	0.076489		-0.48717	-0.65995	-0.67216	-0.77215	-0.86765	-0.97775	-1.07644	-1.18934	-1.30817	-1.40067	-1.48926	-1.59158	-1.68405	-1.75751	-1.80129	-1.83025	-1.82806	-1.80898	-1.67126	-1.41682
0.07149	0.053227		-0.20906	-0.44783	-0.4649	-0.60914	-0.74737	-0.91319	-1.05973	-1.22824	-1.41429	-1.56892	-1.7225	-1.89292	-2.05718	-2.20152	-2.30248	-2.39821	-2.45768	-2.46584	-2.41368	-2.28074
0.005887	0.016034		0.633548	0.301885	0.277274	0.046074	-0.19942	-0.5142	-0.81345	-1.17512	-1.60056	-1.97413	-2.37375	-2.82793	-3.28008	-3.70496	-4.03203	-4.38344	-4.66854	-4.76511	-4.88654	-4.92267
0.000212	0.003011		0.964471	0.813527	0.799439	0.654785	0.483415	0.244671	0.003577	-0.30217	-0.67872	-1.02103	-1.39547	-1.83456	-2.28145	-2.71118	-3.04764	-3.41655	-3.72434	-3.83384	-4.0006	-4.10334
0.001821	-0.00906		0.69835	0.918474	0.927324	0.979795	0.991769	0.976736	0.925624	0.825927	0.665389	0.494109	0.28532	0.018576	-0.2722	-0.56781	-0.81069	-1.08763	-1.33026	-1.42192	-1.58452	-1.71957
0.006581	-0.01813		-0.10776	0.374269	0.400049	0.602256	0.752983	0.879497	0.949603	0.986812	0.988469	0.964204	0.906947	0.808029	0.67779	0.530041	0.399148	0.241458	0.096194	0.039292	-0.06905	-0.16877
0.014655	-0.02736		-0.85258	-0.27164	-0.23824	0.035757	0.260062	0.478363	0.633243	0.772954	0.886163	0.948353	0.984221	0.995321	0.987387	0.958936	0.922144	0.86853	0.812242	0.788344	0.739385	0.690025
0.025377	-0.03328		-1.81023	-1.24227	-1.20501	-0.88628	-0.60639	-0.31553	-0.09322	0.135214	0.360877	0.520334	0.657349	0.779702	0.869098	0.929495	0.961171	0.983006	0.991506	0.992473	0.992342	0.990479
0.072324	-0.03532		-0.54899	-0.29403	-0.28008	-0.16271	-0.05644	0.056346	0.134369	0.207518	0.312343	0.389725	0.46215	0.535488	0.59888	0.65249	0.689822	0.727378	0.756861	0.767408	0.78737	0.807027
0.119502	-0.03445		-0.35227	-0.18416	-0.17473	-0.08941	-0.01225	0.074008	0.13806	0.201741	0.280877	0.341002	0.398389	0.457669	0.509873	0.554981	0.586932	0.619674	0.646106	0.655772	0.674022	0.692966
0.183073	-0.03256		-0.21643	-0.09497	-0.08765	-0.02534	0.031632	0.095579	0.145595	0.194204	0.253997	0.300162	0.344512	0.391605	0.432994	0.469571	0.495175	0.521648	0.543032	0.550689	0.565136	0.580271
0.252785	-0.03016		-0.1838	-0.08957	-0.08362	-0.03362	0.012789	0.064605	0.107453	0.151777	0.201	0.239413	0.276684	0.316537	0.351978	0.383043	0.404465	0.426469	0.443991	0.449949	0.46079	0.472058
0.326542	-0.02631		-0.11773	-0.03863	-0.03394	0.007919	0.046884	0.090596	0.126765	0.159733	0.202114	0.234778	0.266233	0.299717	0.329547	0.355092	0.37235	0.389529	0.402933	0.407085	0.414097	0.420992
0.398268	-0.02292		-0.05516	0.012587	0.016662	0.052282	0.085337	0.122126	0.15398	0.181093	0.216816	0.244145	0.270252	0.298211	0.322444	0.342899	0.356018	0.36875	0.377894	0.380459	0.383178	0.385543
0.472046	-0.01949		-0.02992	0.027001	0.030648	0.061109	0.089404	0.12088	0.148742	0.173402	0.203973	0.227265	0.249389	0.272774	0.293017	0.309522	0.319493	0.32845	0.334073	0.335038	0.333962	0.331737
0.547918	-0.01716		-0.03578	0.010405	0.013306	0.038553	0.062568	0.089204	0.112106	0.138468	0.164706	0.184491	0.202964	0.222663	0.239179	0.252118	0.258633	0.263305	0.265148	0.264345	0.25849	0.250881
0.599177	-0.01539		-0.03817	0.000492	0.003018	0.024793	0.04553	0.068711	0.087997	0.114453	0.137433	0.154508	0.170203	0.186883	0.200692	0.210534	0.2143	0.215628	0.214201	0.211877	0.201843	0.18938
0.691375	-0.01074		0.031105	0.06651	0.067729	0.085594	0.102636	0.12154	0.138026	0.153044	0.171977	0.185744	0.196857	0.209404	0.217672	0.221892	0.221451	0.217296	0.21027	0.204944	0.188394	0.168454
0.765202	-0.00861		0.015928	0.041191	0.042959	0.057173	0.070858	0.085927	0.098913	0.118512	0.132769	0.142351	0.149642	0.156735	0.160692	0.159893	0.153647	0.142729	0.129347	0.121581	0.096734	0.067852
0.836972	-0.00633		0.011517	0.028075	0.029076	0.038664	0.048522	0.059515	0.067883	0.090977	0.100499	0.10582	0.108203	0.109422	0.107149	0.099018	0.085651	0.065539	0.043727	0.031724	-0.00482	-0.04576
0.888238	-0.00476		0.100818	0.120883	0.122381	0.132841	0.142251	0.152688	0.164549	0.103164	0.110788	0.114338	0.114482	0.113116	0.10788	0.096626	0.079833	0.05582	0.029981	0.016189	-0.02574	-0.07146
0.933353	-0.0034		0.065026	0.073181	0.074504	0.079087	0.083688	0.088541	0.091914	0.116259	0.118729	0.116887	0.11007	0.10014	0.085732	0.063711	0.036319	-0.00033	-0.03753	-0.05672	-0.11542	-0.17629
0.994813	-0.00059		0.09283	0.098855	0.099155	0.100951	0.102774	0.104367	0.105086	0.08496	0.083084	0.077118	0.061948	0.037217	-0.00028	-0.05733	-0.13005	-0.22771	-0.32018	-0.36202	-0.46075	-0.52237

Cp SECTION E

			Cp CORR																		
SECTION E (y=1200 mm)			alpha_c																		
x/c	z/c	Cp	-1.8	-0.3	0.43	1.55	2.58	3.77	4.79	5.85	7.06	8.08	9.14	10.3	11.42	12.5	13.43	14.52	15.59	16.07	17.24	18.64
0.993767	0.009311		0.113586	0.11279	0.113021	0.11038	0.106248	0.102346	0.100191	0.099087	0.088037	0.084768	0.082136	0.075373	0.064898	0.047219	0.022795	-0.02381	-0.08366	-0.11462	-0.19589	-0.29273
0.903007	0.02726		0.007289	-0.00113	-0.00155	-0.00774	-0.01431	-0.02089	-0.02544	-0.02971	-0.04282	-0.04731	-0.05037	-0.05411	-0.05883	-0.06687	-0.07989	-0.10859	-0.15109	-0.17527	-0.24434	-0.33795
0.769261	0.050302		-0.15092	-0.17067	-0.17208	-0.18354	-0.19374	-0.2043	-0.21243	-0.22141	-0.23758	-0.24389	-0.24759	-0.24682	-0.24299	-0.23668	-0.23271	-0.23478	-0.25146	-0.26554	-0.31645	-0.40524
0.683798	0.06275		-0.18573	-0.21758	-0.21933	-0.23663	-0.25271	-0.2692	-0.28215	-0.29613	-0.31661	-0.32812	-0.33755	-0.34365	-0.34577	-0.34355	-0.3401	-0.33859	-0.34527	-0.35268	-0.38474	-0.45941
0.557196	0.077767		-0.3115	-0.3041	-0.30592	-0.32666	-0.35645	-0.38427	-0.40605	-0.42965	-0.45902	-0.4805	-0.49835	-0.51613	-0.52741	-0.53284	-0.53464	-0.53554	-0.53738	-0.53916	-0.54566	-0.58164
0.358437	0.093077		-0.47571	-0.55946	-0.56474	-0.61187	-0.66062	-0.67739	-0.70092	-0.74826	-0.80616	-0.85449	-0.89632	-0.93916	-0.97487	-1.00282	-1.02228	-1.04212	-1.05991	-1.06716	-1.07892	-1.08768
0.270026	0.091965		-0.43274	-0.54583	-0.55278	-0.6178	-0.68064	-0.75732	-0.82853	-0.89347	-0.8143	-0.87259	-0.93264	-1.00244	-1.0577	-1.1056	-1.14174	-1.18267	-1.22034	-1.23662	-1.27194	-1.3041
0.192005	0.087889		-0.52219	-0.66707	-0.67587	-0.75701	-0.83339	-0.92179	-0.9988	-1.08405	-1.18825	-1.23683	-1.3041	-1.38297	-1.4614	-1.52998	-1.58443	-1.6447	-1.70194	-1.72683	-1.78177	-1.82991
0.167494	0.085034		-0.5146	-0.67459	-0.68491	-0.77548	-0.86089	-0.96055	-1.0473	-1.14272	-1.25656	-1.28484	-1.36838	-1.45776	-1.54654	-1.6261	-1.6905	-1.76039	-1.82787	-1.857	-1.92208	-1.98102
0.117096	0.075023		-0.4568	-0.65613	-0.66902	-0.78305	-0.89205	-1.01951	-1.13201	-1.25533	-1.40015	-1.47506	-1.59203	-1.71573	-1.83521	-1.94574	-2.03705	-2.13602	-2.23361	-2.27675	-2.37534	-2.46706
0.074153	0.06122		-0.17845	-0.39774	-0.41188	-0.53985	-0.66313	-0.80966	-0.94016	-1.08452	-1.25524	-1.34733	-1.49857	-1.65215	-1.80451	-1.94883	-2.06927	-2.19962	-2.33025	-2.38959	-2.52552	-2.6572
0.040328	0.04619		0.147817	-0.08591	-0.10074	-0.24111	-0.38102	-0.55039	-0.70434	-0.87964	-1.09416	-1.29299	-1.32884	-1.49839	-1.66317	-1.85629	-2.02682	-2.19171	-2.37635	-2.46301	-2.66476	-2.84718
0.021846	0.0372		0.312952	0.030443	0.011336	-0.16672	-0.34744	-0.57203	-0.78045	-1.01894	-1.31321	-1.56659	-1.85766	-2.21067	-2.60002	-3.01403	-3.37631	-3.77267	-4.18284	-4.37181	-4.76553	-5.08927
0.002582	0.019127		0.932846	0.76505	0.751413	0.609663	0.446495	0.223486	0.001144	-0.26638	-0.61254	-0.92512	-1.26487	-1.66509	-2.07508	-2.48763	-2.84082	-3.2658	-3.69148	-3.88703	-4.35513	-4.87332
-0.00048	0.00728		0.855446	0.975067	0.978934	0.993078	0.988637	0.952025	0.889153	0.789234	0.631564	0.470079	0.275754	0.028835	-0.23988	-0.52354	-0.77455	-1.08846	-1.4092	-1.55897	-1.92586	-2.34834
0.001126	-0.0049		0.192096	0.559069	0.578517	0.728427	0.838444	0.927619	0.974075	0.99377	0.991793	0.967694	0.915122	0.824873	0.706984	0.566907	0.433102	0.255376	0.065166	-0.02662	-0.25828	-0.53554
0.004439	-0.01241		-0.42059	0.052852	0.079318	0.295021	0.471274	0.641587	0.761836	0.861579	0.942084	0.980714	0.996005	0.995545	0.975795	0.933509	0.881353	0.800566	0.704447	0.655226	0.526309	0.361461
0.012924	-0.02125		-1.40069	-0.84083	-0.80794	-0.53103	-0.28898	-0.03516	0.162635	0.350728	0.539559	0.669699	0.77845	0.872691	0.936499	0.975214	0.991463	0.995802	0.991185	0.984558	0.957593	0.908258
0.029872	-0.02839		-1.49986	-1.05967	-1.03329	-0.81952	-0.63397	-0.443	-0.29265	-0.12674	0.063972	0.208142	0.342096	0.475798	0.58794	0.681588	0.748061	0.814918	0.868192	0.888343	0.928614	0.960717
0.058575	-0.02967		-0.66708	-0.36356	-0.35063	-0.2384	-0.14915	-0.04132	-0.03357	0.082722	0.195299	0.280621	0.361614	0.445213	0.518453	0.58316	0.631569	0.683743	0.72915	0.747849	0.789186	0.829405
0.091473	-0.0297		-0.45567	-0.29211	-0.28268	-0.20106	-0.12357	-0.03606	0.035456	0.096365	0.182496	0.249366	0.313788	0.381804	0.442434	0.497015	0.538836	0.584671	0.62561	0.642643	0.681207	0.720477
0.169572	-0.02721		-0.22977	-0.12081	-0.11451	-0.05927	-0.008	0.050515	0.100218	0.127182	0.186201	0.232022	0.276686	0.32478	0.367818	0.407409	0.437917	0.472017	0.502824	0.515851	0.545337	0.575762
0.319574	-0.02162		-0.12018	-0.0541	-0.05053	-0.01561	0.017356	0.054524	0.086662	0.109485	0.148131	0.178064	0.207513	0.239748	0.268839	0.295846	0.316426	0.339616	0.360397	0.369114	0.38884	0.408935
0.465458	-0.01579		-0.04758	-0.0019	0.000647	0.02471	0.047828	0.073978	0.09721	0.111562	0.140211	0.161381	0.182221	0.205333	0.22567	0.244425	0.258491	0.273835	0.28735	0.293051	0.305404	0.317087
0.588708	-0.01014		-0.04366	-0.01274	-0.0111	0.005699	0.021862	0.040903	0.057052	0.0691	0.091664	0.107107	0.122205	0.138774	0.153109	0.165924	0.175303	0.185112	0.193466	0.19667	0.203175	0.208335
0.757194	-0.0034		0.049757	0.070449	0.07175	0.082247	0.092876	0.105145	0.114945	0.120447	0.136266	0.145561	0.15382	0.162451	0.168726	0.173812	0.176371	0.177991	0.178467	0.178072	0.176557	0.172511
0.972966	0.004483		0.113586	0.11279	0.113021	0.11038	0.106248	0.102346	0.100191	0.099087	0.088037	0.084768	0.082136	0.075373	0.064898	0.047219	0.022795	-0.02381	-0.08366	-0.11462	-0.19589	-0.29273

8.2 TEST L40: V=40 m/s, clean model (Laminar flow)

	SEC C			SEC E	
alfa cor °	Cl_corr	Cm_corr		Cl_corr	Cm_corr
-1.69	0.10208	-0.06189		0.10642	-0.06679
-0.75	0.18028	-0.06079		0.17279	-0.0651
0.33	0.26885	-0.05933		0.25135	-0.06418
0.4	0.27614	-0.05934		0.25698	-0.06405
1.51	0.36914	-0.05796		0.33656	-0.06271
1.52	0.3705	-0.05797		0.33762	-0.06267
2.59	0.45939	-0.05643		0.41008	-0.06053
3.7	0.5522	-0.05469		0.49116	-0.05873
4.72	0.63508	-0.05319		0.56486	-0.05799
5.89	0.73321	-0.05384		0.64224	-0.05875
6.92	0.82771	-0.05263		0.71781	-0.05667

Cp SECTION C

			Cp CORR								
SECTION C (y=600 mm)			alpha_c								
x/c	z/c		**-1.69**	**-0.75**	**0.33**	**1.51**	**2.59**	**3.7**	**4.72**	**5.89**	**6.92**
0.994969	0.001263		0.095057	0.097344	0.100556	0.102248	0.103646	0.104863	0.10485	0.082728	0.07924
0.976994	0.005452		0.078755	0.08025	0.082595	0.083499	0.084346	0.085267	0.085222	0.064054	0.060728
0.93663	0.012821		0.038002	0.037515	0.037692	0.036626	0.036095	0.036278	0.036152	0.017368	0.014449
0.829636	0.032182		-0.08535	-0.0925	-0.09917	-0.10793	-0.11428	-0.11936	-0.12331	-0.13936	-0.14499
0.758801	0.043953		-0.14361	-0.15537	-0.16739	-0.1817	-0.19334	-0.2038	-0.21263	-0.23106	-0.24204
0.689936	0.055046		-0.2137	-0.22971	-0.24655	-0.26606	-0.28268	-0.29812	-0.31136	-0.33285	-0.34828
0.600385	0.066386		-0.25469	-0.27548	-0.2983	-0.32526	-0.34881	-0.3715	-0.39145	-0.41918	-0.44269
0.553541	0.072063		-0.31447	-0.33745	-0.36321	-0.39413	-0.42188	-0.44863	-0.47245	-0.50392	-0.53111
0.488262	0.079029		-0.37904	-0.40831	-0.43984	-0.4775	-0.51229	-0.54726	-0.57906	-0.61945	-0.65553
0.420758	0.084152		-0.42127	-0.45885	-0.49923	-0.5464	-0.58721	-0.6294	-0.66944	-0.72001	-0.76667
0.353123	0.087079		-0.47533	-0.52066	-0.57076	-0.62968	-0.68133	-0.73232	-0.78019	-0.84159	-0.90008
0.289537	0.086404		-0.48566	-0.53832	-0.59679	-0.66619	-0.72828	-0.79173	-0.84883	-0.91952	-0.98951
0.240395	0.083356		-0.36322	-0.4185	-0.48077	-0.55703	-0.62701	-0.69967	-0.76627	-0.84592	-0.92547
0.164822	0.076489		-0.4904	-0.5674	-0.65814	-0.76625	-0.86616	-0.97044	-1.06799	-1.18635	-1.295
0.07149	0.053227		-0.22403	-0.32891	-0.45549	-0.60935	-0.75559	-0.91191	-1.06006	-1.23894	-1.40902
0.005887	0.016034		0.624334	0.484093	0.298077	0.053657	-0.20374	-0.50214	-0.80369	-1.18954	-1.576
0.000212	0.003011		0.961777	0.9079	0.812251	0.662191	0.483971	0.258855	0.017882	-0.3062	-0.64557
0.001821	-0.00906		0.705552	0.823357	0.918563	0.978042	0.991601	0.978773	0.9308	0.827404	0.686156
0.006581	-0.01813		-0.10294	0.135379	0.371833	0.590798	0.749782	0.871934	0.945533	0.986966	0.990104
0.014655	-0.02736		-0.86249	-0.57624	-0.27856	0.016601	0.252743	0.462651	0.621151	0.770381	0.87423
0.025377	-0.03328		-1.9098	-1.61301	-1.28546	-0.93744	-0.6389	-0.35247	-0.12199	0.122831	0.328927
0.072324	-0.03532		-0.5197	-0.4126	-0.29516	-0.17279	-0.06834	0.042656	0.126459	0.202895	0.298164
0.119502	-0.03445		-0.34749	-0.27034	-0.18394	-0.09336	-0.01377	0.067584	0.138006	0.200055	0.272295
0.183073	-0.03256		-0.21247	-0.15798	-0.09659	-0.03194	0.02598	0.085695	0.138718	0.187885	0.242159
0.252785	-0.03016		-0.18509	-0.14271	-0.09456	-0.04257	0.0045	0.053143	0.095635	0.142018	0.186973
0.326542	-0.02631		-0.11938	-0.08317	-0.04199	0.002465	0.042762	0.0843	0.12088	0.156496	0.195823
0.398268	-0.02292		-0.055	-0.02383	0.01148	0.049215	0.083151	0.118077	0.148897	0.179268	0.212489
0.472046	-0.01949		-0.03086	-0.00471	0.02516	0.056945	0.0858	0.115534	0.141789	0.169275	0.198017
0.547918	-0.01716		-0.03824	-0.0173	0.007181	0.033451	0.057559	0.082813	0.105118	0.132436	0.157953
0.599177	-0.01539		-0.04185	-0.02467	-0.00428	0.018229	0.038794	0.060712	0.079976	0.10568	0.128454
0.691375	-0.01074		0.030114	0.045124	0.062864	0.081244	0.097999	0.115705	0.131682	0.14858	0.167812
0.765202	-0.00861		0.012787	0.023819	0.037015	0.051681	0.064773	0.07894	0.091279	0.110496	0.125694
0.836972	-0.00633		0.0065	0.013267	0.022112	0.031789	0.040513	0.050511	0.058878	0.081456	0.092796
0.888238	-0.00476		0.103656	0.112579	0.122651	0.132575	0.140501	0.149339	0.157576	0.097266	0.102661
0.933353	-0.0034		0.063084	0.066369	0.069473	0.074069	0.077126	0.080751	0.083679	0.111191	0.114959
0.994813	-0.00059		0.095057	0.097344	0.100556	0.102248	0.103646	0.104863	0.10485	0.082728	0.07924

Cp SECTION E

SECTION E (y=1200 mm)			alpha_c								
x/c	z/c	Cp	-1.69	-0.75	0.33	1.51	2.59	3.7	4.72	5.89	6.92
0.993767	0.009311		0.109671	0.108747	0.106485	0.103094	0.100262	0.098155	0.096809	0.094374	0.086945
0.903007	0.02726		0.0021	-0.00223	-0.00766	-0.01457	-0.0204	-0.02542	-0.02971	-0.03508	-0.04459
0.769261	0.050302		-0.15801	-0.16741	-0.17754	-0.18971	-0.2	-0.20935	-0.21803	-0.22774	-0.24037
0.683798	0.06275		-0.19244	-0.20671	-0.22285	-0.24092	-0.25649	-0.27113	-0.28452	-0.30017	-0.31724
0.557196	0.077767		-0.27745	-0.28451	-0.31043	-0.34131	-0.36645	-0.39034	-0.41215	-0.43865	-0.46386
0.358437	0.093077		-0.48532	-0.52419	-0.56857	-0.60862	-0.62513	-0.66656	-0.7137	-0.76728	-0.81554
0.270026	0.091965		-0.4389	-0.49083	-0.54986	-0.62112	-0.68951	-0.7602	-0.78471	-0.75945	-0.81541
0.192005	0.087889		-0.53096	-0.59683	-0.6727	-0.75964	-0.84061	-0.92459	-1.003	-1.06261	-1.147
0.167494	0.085034		-0.52455	-0.59765	-0.68132	-0.77846	-0.86891	-0.96323	-1.05019	-1.09565	-1.17929
0.117096	0.075023		-0.46877	-0.55925	-0.66455	-0.78683	-0.90217	-1.02312	-1.13747	-1.24125	-1.34758
0.074153	0.06122		-0.18622	-0.28481	-0.40126	-0.53773	-0.66795	-0.80683	-0.93937	-1.08859	-1.23181
0.040328	0.04619		0.142611	0.037759	-0.08427	-0.2336	-0.37994	-0.53812	-0.69335	-0.88442	-1.07873
0.021846	0.0372		0.30985	0.186594	0.03394	-0.15511	-0.34521	-0.55724	-0.76817	-1.02924	-1.29144
0.002582	0.019127		0.931526	0.86848	0.767781	0.620764	0.451901	0.24398	0.022963	-0.26661	-0.56968
-0.00048	0.00728		0.855734	0.925017	0.973278	0.991973	0.988658	0.957244	0.897198	0.790334	0.654834
0.001126	-0.0049		0.189003	0.371943	0.550962	0.715399	0.833273	0.920563	0.970054	0.993149	0.992749
0.004439	-0.01241		-0.43366	-0.20218	0.036804	0.272581	0.460447	0.625003	0.748616	0.859231	0.932507
0.012924	-0.02125		-1.44609	-1.17063	-0.87676	-0.57131	-0.31271	-0.06739	0.134829	0.342025	0.510637
0.029872	-0.02839		-1.59842	-1.36998	-1.13038	-0.88325	-0.68032	-0.47925	-0.32	-0.13991	0.028951
0.058575	-0.02967		-0.59758	-0.49109	-0.37811	-0.26529	-0.17479	-0.0636	-0.00392	0.075684	0.174494
0.091473	-0.0297		-0.47308	-0.3954	-0.30979	-0.21861	-0.13697	-0.0521	0.026429	0.089302	0.165005
0.169572	-0.02721		-0.22622	-0.17782	-0.12235	-0.06463	-0.01234	0.041596	0.089957	0.131622	0.172831
0.319574	-0.02162		-0.12341	-0.09378	-0.05961	-0.02318	0.010602	0.045958	0.077094	0.11528	0.137504
0.465458	-0.01579		-0.05036	-0.03002	-0.00613	0.01926	0.042846	0.06746	0.089981	0.119896	0.1313
0.588708	-0.01014		-0.04741	-0.0341	-0.01747	-0.00015	0.015903	0.033649	0.049715	0.069901	0.080202
0.757194	-0.0034		0.046623	0.055451	0.066022	0.076533	0.086641	0.097822	0.107488	0.120949	0.126212
0.972966	0.004483		0.109671	0.108747	0.106485	0.103094	0.100262	0.098155	0.096809	0.094374	0.086945

Cp in SECTION A,B,D,F

SECTION A (y=160 mm)	alpha_c								
x/c	**-1.69**	**-0.75**	**0.33**	**1.51**	**2.59**	**3.7**	**4.72**	**5.89**	**6.92**
0.038	0.0495	0.0606	0.0495	0.0613	0.0606	0.0609	0.059	0.0566	0.0578
0.17	-0.7186	-0.6277	-0.7186	-0.8282	-0.9283	-1.0322	-1.1298	-1.2472	-1.3496
0.36	-0.5422	-0.4953	-0.5422	-0.6015	-0.6502	-0.7003	-0.7485	-0.8075	-0.8648
0.56	-0.2575	-0.2367	-0.2575	-0.285	-0.308	-0.3299	-0.3497	-0.3742	-0.402
SECTION B (y=450 mm)									
x/c									
0.038	0.0473	0.0483	0.0473	0.0479	0.0476	0.0478	0.0473	0.0474	0.0469
0.17	-0.687	-0.5962	-0.687	-0.7965	-0.8966	-1.0006	-1.0978	-1.2134	-1.3202
0.36	-0.5811	-0.5313	-0.5811	-0.6403	-0.6923	-0.7437	-0.7918	-0.8552	-0.9113
0.56	-0.3027	-0.2796	-0.3027	-0.3299	-0.3534	-0.3761	-0.3961	-0.4264	-0.4499
SECTION D (y=990 mm)									
x/c									
0.038	-0.1703	-0.0349	-0.1703	-0.3331	-0.4917	-0.6645	-0.8309	-1.0325	-1.2301
0.17	-0.6965	-0.6058	-0.6965	-0.8005	-0.898	-0.9998	-1.0952	-1.2083	-1.3206
0.36	-0.5979	-0.5494	-0.5979	-0.6553	-0.7112	-0.72	-0.7464	-0.811	-0.8734
0.56	-0.263	-0.2347	-0.263	-0.2931	-0.3198	-0.3443	-0.3654	-0.3892	-0.415
SECTION F (y=1500 mm)									
x/c									
0.038	-0.0847	0.0107	-0.0847	-0.1964	-0.3034	-0.4182	-0.529	-0.6606	-0.7876
0.17	-0.5801	-0.5239	-0.5801	-0.6459	-0.707	-0.77	-0.83	-0.8995	-0.9665
0.36	-0.4391	-0.4116	-0.4391	-0.4711	-0.472	-0.4662	-0.4871	-0.5242	-0.5597
0.56	-0.1902	-0.1769	-0.1902	-0.2074	-0.225	-0.243	-0.2636	-0.2869	-0.3106

8.3 TEST T30: V=30 m/s, Transition trips at x/c= 0.014

	SEC C			SEC E	
alfa cor	Cl_corr	Cm_corr		Cl_corr	Cm_corr
-2.22	0.05357	-0.06273		0.05961	-0.06976
-0.81	0.17322	-0.06046		0.15964	-0.06688
0.3	0.2635	-0.05868		0.23892	-0.06513
0.32	0.26414	-0.05845		0.24034	-0.06507
1.49	0.36266	-0.05667		0.32322	-0.06328
2.57	0.45163	-0.05511		0.39009	-0.06152
3.66	0.53921	-0.05313		0.46605	-0.06021
4.79	0.63045	-0.05091		0.54972	-0.05877
5.82	0.70912	-0.04955		0.62448	-0.05743
7.03	0.80618	-0.04649		0.70996	-0.05544
8.07	0.89061	-0.04256		0.77924	-0.05391
9.13	0.97766	-0.04016		0.85344	-0.05174
10.29	1.06229	-0.03524		0.9265	-0.04999
11.39	1.13642	-0.02951		0.99613	-0.04756
12.47	1.20089	-0.02317		1.0618	-0.0445
13.43	1.24637	-0.01808		1.11616	-0.0414
14.09	1.2718	-0.01617		1.15186	-0.03926
14.37	1.28123	-0.01574		1.1674	-0.03826
14.54	1.28611	-0.01585		1.17498	-0.03791
15.1	1.30237	-0.01714		1.20118	-0.03551
15.62	1.31402	-0.01927		1.22542	-0.034
15.66	1.31601	-0.01968		1.2283	-0.03383
16.06	1.32518	-0.02411		1.24642	-0.03327
16.7	1.33065	-0.05584		1.27599	-0.03276
17.98	1.23316	-0.06643		1.34031	-0.03456

SECTION C

SECTION C (y=600 mm)		alpha_c																			
x/c	z/c	-2.22	-0.81	0.32	1.49	2.57	3.66	4.79	5.82	7.03	8.07	9.13	10.29	11.39	12.47	13.43	14.54	15.62	16.06	16.7	17.98
0.994969	0.001263	0.094734	0.097253	0.099221	0.099778	0.100356	0.100413	0.096789	0.092698	0.084973	0.071297	0.054357	0.033721	0.002039	-0.04254	-0.10385	-0.18785	-0.27581	-0.31677	-0.39684	-0.5431
0.976994	0.005452	0.080151	0.081224	0.082401	0.082285	0.082338	0.082159	0.079191	0.075651	0.069164	0.05674	0.041081	0.022868	-0.00607	-0.04824	-0.10655	-0.18955	-0.27922	-0.32057	-0.41401	-0.55696
0.93663	0.012821	0.043695	0.041149	0.040353	0.03855	0.037294	0.036525	0.035197	0.033035	0.02964	0.020348	0.007889	-0.00427	-0.02635	-0.06251	-0.11328	-0.1938	-0.28773	-0.33006	-0.45693	-0.5916
0.829636	0.032182	-0.07366	-0.08517	-0.09184	-0.09959	-0.10558	-0.11033	-0.11305	-0.11479	-0.1149	-0.11766	-0.12148	-0.11762	-0.11387	-0.11958	-0.14434	-0.20475	-0.28709	-0.32641	-0.48995	-0.61654
0.758801	0.043953	-0.12871	-0.14657	-0.15881	-0.17194	-0.18285	-0.19241	-0.20017	-0.20594	-0.21077	-0.2161	-0.22105	-0.21602	-0.20484	-0.19192	-0.18938	-0.22236	-0.29274	-0.33052	-0.52454	-0.61676
0.689936	0.055046	-0.19937	-0.22262	-0.23967	-0.25799	-0.27348	-0.2877	-0.30017	-0.3099	-0.31935	-0.32801	-0.33569	-0.33329	-0.3212	-0.29854	-0.27128	-0.26505	-0.30883	-0.34041	-0.56234	-0.61782
0.600385	0.066386	-0.24155	-0.27033	-0.29371	-0.31964	-0.34216	-0.36391	-0.38462	-0.40217	-0.42199	-0.43936	-0.45492	-0.46287	-0.46127	-0.44634	-0.41595	-0.3709	-0.36242	-0.3864	-0.59782	-0.61176
0.553541	0.072063	-0.29938	-0.33297	-0.35888	-0.38825	-0.41456	-0.44029	-0.46494	-0.48591	-0.50965	-0.53017	-0.54906	-0.56077	-0.56289	-0.55115	-0.52191	-0.46469	-0.4176	-0.43279	-0.59534	-0.60342
0.488262	0.079029	-0.35896	-0.40313	-0.43585	-0.47226	-0.50496	-0.53795	-0.57092	-0.59932	-0.63227	-0.66067	-0.68735	-0.70812	-0.71919	-0.7166	-0.69598	-0.64395	-0.57018	-0.56888	-0.59969	-0.60534
0.420758	0.084152	-0.39712	-0.45215	-0.49242	-0.53837	-0.57887	-0.61705	-0.65951	-0.69658	-0.7409	-0.77941	-0.81587	-0.84799	-0.87079	-0.88073	-0.87361	-0.83924	-0.77665	-0.7644	-0.63875	-0.60032
0.353123	0.087079	-0.44847	-0.51565	-0.56488	-0.6213	-0.67247	-0.72028	-0.77326	-0.82056	-0.87835	-0.92806	-0.97626	-1.02093	-1.0565	-1.08005	-1.0859	-1.06907	-1.02354	-1.00565	-0.81827	-0.60525
0.289537	0.086404	-0.4542	-0.53298	-0.59229	-0.65909	-0.72059	-0.78043	-0.8438	-0.90243	-0.97579	-1.03862	-1.10011	-1.15869	-1.20852	-1.24697	-1.26711	-1.26805	-1.24106	-1.2217	-1.06413	-0.66783
0.240395	0.083356	-0.3366	-0.42204	-0.48428	-0.55597	-0.62392	-0.69042	-0.76489	-0.83284	-0.92072	-0.99802	-1.07365	-1.14758	-1.21322	-1.2688	-1.30528	-1.32705	-1.32057	-1.30576	-1.18808	-0.82271
0.164822	0.076489	-0.44681	-0.56442	-0.65627	-0.76062	-0.85795	-0.95578	-1.06187	-1.15769	-1.27229	-1.37546	-1.47946	-1.58462	-1.68045	-1.76455	-1.82521	-1.8725	-1.88838	-1.87906	-1.75358	-1.42833
0.07149	0.053227	-0.15113	-0.31829	-0.43955	-0.59231	-0.73392	-0.88313	-1.04336	-1.19169	-1.37335	-1.53677	-1.70762	-1.88902	-2.05848	-2.21619	-2.34124	-2.45767	-2.53414	-2.54401	-2.45709	-2.26271
0.005887	0.016034	0.715135	0.522216	0.327781	0.08055	-0.18383	-0.48593	-0.83746	-1.18286	-1.6264	-2.04672	-2.50025	-3.01199	-3.51599	-4.02919	-4.45608	-4.89333	-5.23694	-5.32665	-5.26318	-5.16681
0.000212	0.003011	0.981984	0.919307	0.825988	0.685724	0.51826	0.31426	0.060136	-0.20164	-0.55189	-0.89574	-1.27587	-1.71453	-2.15396	-2.59281	-2.97182	-3.36934	-3.69095	-3.78014	-3.74839	-3.72371
0.001821	-0.00906	0.613308	0.809245	0.913703	0.975863	0.991683	0.982312	0.93197	0.847548	0.699904	0.527016	0.312177	0.040325	-0.25249	-0.5608	-0.83997	-1.1449	-1.40347	-1.47993	-1.47869	-1.51706
0.006581	-0.01813	-0.26722	0.109648	0.362718	0.581783	0.741156	0.861247	0.94534	0.983087	0.990107	0.969882	0.914353	0.81497	0.68512	0.531304	0.380962	0.206869	0.051772	0.003848	-0.00189	-0.04183
0.014655	-0.02736	-0.98154	-0.54713	-0.23909	0.047822	0.27505	0.47041	0.641863	0.765283	0.877648	0.94456	0.983379	0.995302	0.987573	0.958273	0.915729	0.855563	0.794259	0.773817	0.769882	0.748067
0.025377	-0.03328	-2.10262	-1.60388	-1.23368	-0.87699	-0.58467	-0.31919	-0.06684	0.133217	0.34919	0.514686	0.656786	0.779485	0.868596	0.930289	0.96503	0.985778	0.991845	0.992252	0.992153	0.991738
0.072324	-0.03532	-0.61069	-0.44296	-0.31381	-0.18624	-0.08007	0.026944	0.135554	0.188613	0.293214	0.376719	0.454787	0.531094	0.596534	0.653225	0.695937	0.736669	0.766482	0.774916	0.777028	0.787562
0.119502	-0.03445	-0.3987	-0.28122	-0.19035	-0.10188	-0.02277	0.05516	0.134223	0.187357	0.265509	0.330451	0.392279	0.454051	0.507841	0.555622	0.592526	0.628166	0.654816	0.662465	0.663663	0.67332
0.183073	-0.03256	-0.24424	-0.16156	-0.09748	-0.03351	0.024752	0.081643	0.139951	0.186598	0.241188	0.290976	0.339402	0.387958	0.431369	0.470116	0.500364	0.529564	0.551328	0.557256	0.556931	0.563233
0.252785	-0.03016	-0.20655	-0.14196	-0.09183	-0.04014	0.007125	0.053052	0.100854	0.142971	0.189219	0.230992	0.272069	0.313732	0.351049	0.384511	0.410511	0.435446	0.453566	0.458147	0.45564	0.458388
0.326542	-0.02631	-0.13677	-0.08331	-0.04165	0.001073	0.040561	0.0794	0.119742	0.155249	0.189775	0.225274	0.260431	0.295676	0.326957	0.355095	0.376308	0.396156	0.409592	0.412799	0.408403	0.40724
0.398268	-0.02292	-0.06862	-0.02376	0.011258	0.047041	0.080367	0.112944	0.146878	0.178542	0.205661	0.235759	0.265494	0.295042	0.321252	0.34444	0.361419	0.376711	0.386186	0.387897	0.381689	0.375949
0.472046	-0.01949	-0.04134	-0.00365	0.025617	0.056099	0.084653	0.112212	0.141269	0.16847	0.192001	0.218291	0.244165	0.269631	0.291854	0.31118	0.324912	0.336653	0.342891	0.343186	0.334524	0.323957
0.547918	-0.01716	-0.04688	-0.01626	0.008144	0.033514	0.057229	0.080502	0.104904	0.126864	0.150498	0.173851	0.196681	0.218418	0.237195	0.253088	0.263651	0.271319	0.273752	0.272571	0.260888	0.24395
0.599177	-0.01539	-0.04887	-0.02306	-0.00234	0.019403	0.040147	0.060182	0.081336	0.099599	0.121285	0.142496	0.163354	0.182008	0.198139	0.211215	0.219002	0.223656	0.222946	0.220634	0.206334	0.183596
0.691375	-0.01074	0.025942	0.047218	0.063172	0.081922	0.098828	0.114816	0.131211	0.147877	0.165195	0.177434	0.192373	0.205774	0.218026	0.225128	0.229004	0.228496	0.224059	0.218584	0.20147	0.170778
0.765202	-0.00861	0.010355	0.026544	0.039283	0.053072	0.066203	0.078427	0.09156	0.103587	0.1196	0.129732	0.142955	0.153301	0.160199	0.16363	0.162013	0.155579	0.144279	0.137942	0.11461	0.070114
0.836972	-0.00633	0.006078	0.016655	0.025102	0.033899	0.043006	0.051188	0.059932	0.066925	0.076631	0.087838	0.099788	0.104775	0.10576	0.102735	0.094318	0.07917	0.059746	0.050544	0.020111	-0.04371
0.888238	-0.00476	0.099056	0.111081	0.120047	0.129331	0.137118	0.144883	0.1533	0.164106	0.18008	0.124387	0.107495	0.110112	0.108375	0.102305	0.090786	0.071926	0.049148	0.038801	0.005881	-0.06704
0.933353	-0.0034	0.063961	0.06895	0.071032	0.075239	0.078265	0.080488	0.08262	0.083941	0.086528	0.095322	0.102017	0.09657	0.086188	0.070463	0.048964	0.018374	-0.01495	-0.02891	-0.06942	-0.17143
0.994813	-0.00059	0.094734	0.097253	0.099221	0.099778	0.100356	0.100413	0.096789	0.092698	0.084973	0.071297	0.054357	0.033721	0.002039	-0.04254	-0.10385	-0.18785	-0.27581	-0.31677	-0.39684	-0.5431

SECTION E

SECTION E (y=1200 mm)			alpha_c																			
x/c	z/c	Cp	-2.22	-0.81	0.32	1.49	2.57	3.66	4.79	5.82	7.03	8.07	9.13	10.29	11.39	12.47	13.43	14.54	15.62	16.06	16.7	17.98
0.993767	0.009311		0.112382	0.109625	0.105854	0.101	0.09612	0.09375	0.09098	0.088127	0.085329	0.082342	0.077589	0.070786	0.061319	0.046613	0.025969	-0.01041	-0.05826	-0.08019	-0.11671	-0.19216
0.903007	0.02726		0.008551	0.001271	-0.00506	-0.01255	-0.01907	-0.02416	-0.02939	-0.03408	-0.03847	-0.04245	-0.04699	-0.05225	-0.05828	-0.06696	-0.07885	-0.10172	-0.13485	-0.15153	-0.18115	-0.24864
0.769261	0.050302		-0.14599	-0.16	-0.17014	-0.18156	-0.19051	-0.19966	-0.20854	-0.21598	-0.22273	-0.22819	-0.23241	-0.23536	-0.23628	-0.236	-0.23485	-0.23762	-0.24884	-0.25771	-0.27706	-0.33271
0.683798	0.06275		-0.18407	-0.20518	-0.22181	-0.23917	-0.25352	-0.26697	-0.28103	-0.29321	-0.30608	-0.31635	-0.32563	-0.33403	-0.33979	-0.34298	-0.34389	-0.34493	-0.34936	-0.35377	-0.36588	-0.40672
0.557196	0.077767		-0.27992	-0.2922	-0.31009	-0.33975	-0.36355	-0.38551	-0.40846	-0.42912	-0.45165	-0.47079	-0.48928	-0.50712	-0.52173	-0.53287	-0.5397	-0.54515	-0.54792	-0.54949	-0.55442	-0.57229
0.358437	0.093077		-0.45606	-0.51271	-0.55669	-0.59331	-0.62668	-0.67067	-0.71642	-0.75853	-0.80647	-0.84788	-0.88914	-0.93157	-0.97027	-1.0037	-1.03018	-1.05621	-1.07666	-1.08426	-1.09653	-1.1198
0.270026	0.091965		-0.40679	-0.48208	-0.5426	-0.59379	-0.58068	-0.63743	-0.69803	-0.75841	-0.82547	-0.88208	-0.93979	-1.00059	-1.05809	-1.11184	-1.15586	-1.20225	-1.24308	-1.25871	-1.28161	-1.32624
0.192005	0.087889		-0.48812	-0.58534	-0.66343	-0.74807	-0.79968	-0.87472	-0.95992	-1.03661	-1.12843	-1.20775	-1.28921	-1.37539	-1.45655	-1.53239	-1.59615	-1.66477	-1.72507	-1.74826	-1.78252	-1.84872
0.167494	0.085034		-0.47736	-0.5847	-0.6718	-0.76586	-0.81877	-0.89269	-0.9848	-1.07018	-1.17259	-1.26153	-1.35319	-1.45014	-1.54275	-1.63009	-1.70351	-1.78329	-1.85452	-1.88188	-1.92171	-1.99959
0.117096	0.075023		-0.41054	-0.54368	-0.65239	-0.77145	-0.87008	-0.97709	-1.09665	-1.20574	-1.3353	-1.45162	-1.57268	-1.7033	-1.82865	-1.94626	-2.04831	-2.16042	-2.26247	-2.30206	-2.35967	-2.47289
0.074153	0.06122		-0.12787	-0.27216	-0.39318	-0.52562	-0.63999	-0.76391	-0.90546	-1.03508	-1.19152	-1.33426	-1.48311	-1.64641	-1.80494	-1.95396	-2.08581	-2.23247	-2.36806	-2.4217	-2.49872	-2.65169
0.040328	0.04619		0.201837	0.044178	-0.08379	-0.23021	-0.36401	-0.50306	-0.65953	-0.81609	-1.00449	-1.16626	-1.34711	-1.55172	-1.75689	-1.94778	-2.12004	-2.31591	-2.49746	-2.57001	-2.67278	-2.88075
0.021846	0.0372		0.37476	0.197593	0.038872	-0.14615	-0.33373	-0.49939	-0.72816	-0.95263	-1.19577	-1.41483	-1.67504	-1.75278	-1.90651	-2.13287	-2.33307	-2.57616	-2.80858	-2.90948	-3.04722	-3.33193
0.002582	0.019127		0.958956	0.877595	0.775448	0.633008	0.47016	0.277395	0.038085	-0.20682	-0.53173	-0.84187	-1.1876	-1.59138	-2.00269	-2.42251	-2.81212	-3.26807	-3.70808	-3.88464	-4.13505	-4.65027
-0.00048	0.00728		0.80527	0.920276	0.972672	0.991462	0.988384	0.960116	0.894597	0.803803	0.657682	0.497997	0.301525	0.052642	-0.21753	-0.50695	-0.7842	-1.11783	-1.4502	-1.58404	-1.77635	-2.18268
0.001126	-0.0049		0.075722	0.361363	0.551237	0.714904	0.831995	0.916676	0.972881	0.993742	0.994538	0.973963	0.923458	0.834481	0.71756	0.575654	0.42846	0.239716	0.041634	-0.04033	-0.15949	-0.41975
0.004439	-0.01241		-0.56841	-0.21119	0.042227	0.275402	0.461116	0.617937	0.75533	0.851402	0.933916	0.976613	0.995102	0.995435	0.977269	0.935321	0.878252	0.791672	0.690556	0.647079	0.581752	0.432243
0.012924	-0.02125		-1.53819	-1.12111	-0.81459	-0.51631	-0.26396	-0.03655	0.182699	0.356412	0.536145	0.666883	0.778009	0.872373	0.936686	0.975977	0.99298	0.996634	0.989809	0.98385	0.97156	0.933023
0.029872	-0.02839		-2.03912	-1.63364	-1.34975	-1.07975	-0.84906	-0.61472	-0.37338	-0.19125	0.00865	0.170428	0.314985	0.458361	0.578293	0.678818	0.754251	0.824558	0.877238	0.894834	0.915911	0.950119
0.058575	-0.02967		-0.72175	-0.55914	-0.43465	-0.31523	-0.20144	-0.09953	0.017094	0.103707	0.199225	0.267757	0.35209	0.437576	0.512773	0.579685	0.63356	0.688221	0.733872	0.750562	0.7714	0.811329
0.091473	-0.0297		-0.52602	-0.40888	-0.3168	-0.22419	-0.14204	-0.06112	0.024022	0.095763	0.178072	0.238052	0.30527	0.374652	0.436894	0.493803	0.540175	0.588905	0.630568	0.645922	0.66513	0.70294
0.169572	-0.02721		-0.25744	-0.18453	-0.12645	-0.06877	-0.01638	0.035865	0.089879	0.137121	0.19286	0.225105	0.271327	0.319792	0.364186	0.405404	0.439793	0.475883	0.507186	0.518774	0.532908	0.561633
0.319574	-0.02162		-0.13673	-0.09334	-0.05807	-0.022	0.010948	0.043743	0.079034	0.110046	0.146742	0.170148	0.201177	0.233952	0.264323	0.292898	0.316612	0.341769	0.36303	0.370934	0.379421	0.397582
0.465458	-0.01579		-0.05953	-0.03	-0.00537	0.018857	0.041573	0.065098	0.089641	0.11141	0.138095	0.156696	0.177983	0.200044	0.221796	0.242047	0.258937	0.276554	0.290702	0.295795	0.300377	0.310623
0.588708	-0.01014		-0.05165	-0.03156	-0.01456	0.002353	0.018667	0.034978	0.053037	0.068812	0.088275	0.106253	0.122454	0.139989	0.156038	0.168308	0.178728	0.192309	0.199275	0.20239	0.203758	0.207961
0.757194	-0.0034		0.04417	0.056896	0.067366	0.077514	0.086976	0.097073	0.108012	0.117129	0.128683	0.139131	0.149273	0.159157	0.167825	0.176488	0.182342	0.186837	0.181744	0.181909	0.179173	0.174968
0.972966	0.004483		0.112382	0.109625	0.105854	0.101	0.09612	0.09375	0.09098	0.088127	0.085329	0.082342	0.077589	0.070786	0.061319	0.046613	0.025969	-0.01041	-0.05826	-0.08019	-0.11671	-0.19216

SECTION A,B,D,F

SECTION A (y=160 mm)	alpha_c																			
x/c	-2.22	-0.81	0.32	1.49	2.57	3.66	4.79	5.82	7.03	8.07	9.13	10.29	11.39	12.47	13.43	14.54	15.62	16.06	16.7	17.98
0.038	0.0508	0.0517	0.0382	0.0476	0.0485	0.0458	0.0461	0.0454	0.0437	0.0395	0.0391	0.041	0.0413	0.0426	0.0376	0.0422	0.0402	0.0346	0.0293	0.0218
0.17	-0.5021	-0.6218	-0.703	-0.8078	-0.9037	-1.0034	-1.1094	-1.2008	-1.3127	-1.4143	-1.5142	-1.6153	-1.7061	-1.7822	-1.8265	-1.809	-1.6924	-1.5887	-1.3754	-0.9855
0.36	-0.4371	-0.5014	-0.5287	-0.5841	-0.6335	-0.6829	-0.7349	-0.783	-0.8403	-0.8883	-0.9319	-0.9716	-1.0034	-1.0221	-1.0138	-0.9205	-0.6465	-0.5001	-0.4353	-0.4519
0.56	-0.1808	-0.2227	-0.2504	-0.2779	-0.3002	-0.3218	-0.3435	-0.3617	-0.3856	-0.4047	-0.4188	-0.4269	-0.4298	-0.4219	-0.3957	-0.3848	-0.4145	-0.4223	-0.4436	-0.4868
SECTION B (y=450 mm)																				
x/c																				
0.038	0.0433	0.0429	0.0415	0.0417	0.0416	0.0421	0.0418	0.0412	0.0409	0.0403	0.0394	0.0385	0.0372	0.0363	0.0345	0.0316	0.0271	0.025	0.0197	0.0109
0.17	-0.4848	-0.6073	-0.6815	-0.787	-0.8854	-0.985	-1.0886	-1.1822	-1.2975	-1.4007	-1.5038	-1.609	-1.7039	-1.7853	-1.8395	-1.8704	-1.8553	-1.8057	-1.5546	-1.1848
0.36	-0.4595	-0.5279	-0.5713	-0.6289	-0.6804	-0.7279	-0.7804	-0.8274	-0.882	-0.9303	-0.9768	-1.0192	-1.0522	-1.0721	-1.0698	-1.0366	-0.9672	-0.8723	-0.5612	-0.5318
0.56	-0.288	-0.2575	-0.2964	-0.3234	-0.3467	-0.3706	-0.3926	-0.4096	-0.4287	-0.447	-0.4625	-0.4686	-0.4643	-0.4426	-0.398	-0.3519	-0.3717	-0.4688	-0.5565	-0.5488
SECTION D (y=990 mm)																				
x/c																				
0.038	0.1451	-0.0201	-0.1609	-0.3202	-0.4742	-0.6352	-0.816	-0.9804	-1.1889	-1.3499	-1.5561	-1.7762	-1.9868	-2.1897	-2.3651	-2.5569	-2.7251	-2.7886	-2.8671	-3.003
0.17	-0.4766	-0.5926	-0.6867	-0.788	-0.8816	-0.9472	-1.0426	-1.1361	-1.2472	-1.3444	-1.4434	-1.5479	-1.6445	-1.7327	-1.8048	-1.8786	-1.9378	-1.9585	-1.9856	-2.0125
0.36	-0.4737	-0.5345	-0.5681	-0.6165	-0.6635	-0.7117	-0.7644	-0.8112	-0.8638	-0.9084	-0.9529	-0.9971	-1.0351	-1.0656	-1.0865	-1.1019	-1.1056	-1.1044	-1.1063	-1.0971
0.56	-0.2219	-0.2484	-0.2733	-0.2983	-0.3203	-0.3419	-0.3639	-0.3828	-0.403	-0.4195	-0.4349	-0.4475	-0.4551	-0.4562	-0.4517	-0.442	-0.4315	-0.4305	-0.4375	-0.5112
SECTION F (y=1500 mm)																				
x/c																				
0.038	0.1384	0.0209	-0.0783	-0.187	-0.2941	-0.4089	-0.5311	-0.6491	-0.7914	-0.9135	-1.0348	-1.1752	-1.3191	-1.4599	-1.5889	-1.7345	-1.8808	-1.9397	-2.0295	-2.2122
0.17	-0.4415	-0.5112	-0.5719	-0.6385	-0.6903	-0.7381	-0.7937	-0.8507	-0.9172	-0.9767	-1.0411	-1.1107	-1.177	-1.2405	-1.2971	-1.3607	-1.4229	-1.4484	-1.4881	-1.5682
0.36	-0.365	-0.3798	-0.4056	-0.4332	-0.4553	-0.4839	-0.514	-0.5425	-0.5773	-0.6091	-0.6408	-0.6762	-0.7103	-0.7433	-0.7738	-0.8075	-0.8416	-0.8558	-0.8789	-0.927
0.56	-0.1656	-0.1836	-0.1951	-0.2095	-0.2256	-0.2442	-0.2637	-0.2845	-0.314	-0.3391	-0.3662	-0.3956	-0.4243	-0.4518	-0.4771	-0.5053	-0.5339	-0.5457	-0.5654	-0.6069

8.4 TEST T35: V=35 m/s, Transition trips at x/c= 0.014

	SEC C			SEC E	
alfa cor	Cl_corr	Cm_corr		Cl_corr	Cm_corr
-2.55	0.02118	-0.06262		0.0302	-0.07028
-1.88	0.07769	-0.06153		0.07631	-0.06888
-0.82	0.16469	-0.05947		0.15096	-0.06715
0.24	0.24967	-0.05802		0.21679	-0.06545
0.37	0.26125	-0.05779		0.22598	-0.06527
0.49	0.27251	-0.0576		0.23527	-0.06509
1.41	0.35016	-0.056		0.3015	-0.06357
2.61	0.44868	-0.05384		0.38628	-0.06187
3.66	0.53298	-0.05176		0.46097	-0.06019
4.77	0.62204	-0.04973		0.54175	-0.05873
5.88	0.71063	-0.04803		0.62391	-0.05718
6.92	0.79299	-0.04558		0.69644	-0.05553
8.13	0.89149	-0.04207		0.78109	-0.05351
9.19	0.9782	-0.03778		0.85193	-0.05198
10.25	1.06041	-0.03464		0.92035	-0.05036

8.5 TEST T40: V=40 m/s, Transition trips at x/c= 0.014

	SEC C			SEC E	
alfa cor	Cl_corr	Cm_corr		Cl_corr	Cm_corr
-1.94	0.07386	-0.0618		0.07285	-0.06879
-0.85	0.16302	-0.05975		0.14385	-0.06711
0.25	0.25233	-0.05806		0.2173	-0.06566
0.36	0.26381	-0.05806		0.22597	-0.06559
1.49	0.35756	-0.05611		0.3058	-0.06398
2.59	0.44756	-0.05405		0.38537	-0.06219
3.7	0.53808	-0.05217		0.46522	-0.06053
4.75	0.62493	-0.05023		0.54324	-0.0591
5.88	0.71438	-0.04844		0.62499	-0.05757
6.92	0.79927	-0.0461		0.69952	-0.05605
8.12	0.89596	-0.04265		0.78401	-0.05396

SECTION C

SECTION C (y=600 mm)		alpha_c									
x/c	z/c	**-1.94**	**-0.85**	**0.36**	**1.49**	**2.59**	**3.7**	**4.75**	**5.88**	**6.92**	**8.12**
0.994969	0.001263	0.096919	0.099599	0.10094	0.101958	0.101883	0.100564	0.097588	0.093877	0.086768	0.076283
0.976994	0.005452	0.080897	0.08273	0.083295	0.083812	0.083553	0.082356	0.079757	0.076524	0.07046	0.06138
0.93663	0.012821	0.040844	0.040559	0.039181	0.038448	0.037729	0.036835	0.035179	0.033143	0.029689	0.024124
0.829636	0.032182	-0.08016	-0.08705	-0.09592	-0.10245	-0.10732	-0.11195	-0.11559	-0.11798	-0.11889	-0.11821
0.758801	0.043953	-0.13654	-0.14895	-0.16364	-0.17564	-0.18569	-0.19529	-0.20359	-0.21073	-0.21555	-0.21875
0.689936	0.055046	-0.2066	-0.22377	-0.24387	-0.26082	-0.27565	-0.28994	-0.30267	-0.31441	-0.32365	-0.33155
0.600385	0.066386	-0.24617	-0.26927	-0.29715	-0.32162	-0.344	-0.36521	-0.38555	-0.40519	-0.42322	-0.4407
0.553541	0.072063	-0.30512	-0.33113	-0.36278	-0.39147	-0.41775	-0.44303	-0.46695	-0.49039	-0.5119	-0.53349
0.488262	0.079029	-0.36645	-0.4002	-0.4392	-0.47455	-0.509	-0.54197	-0.57381	-0.6061	-0.63591	-0.66721
0.420758	0.084152	-0.40634	-0.44724	-0.49604	-0.53844	-0.58105	-0.6229	-0.66391	-0.70636	-0.74675	-0.78958
0.353123	0.087079	-0.45873	-0.50756	-0.56667	-0.61984	-0.67089	-0.72341	-0.7749	-0.82904	-0.8802	-0.93575
0.289537	0.086404	-0.46672	-0.52414	-0.59296	-0.65673	-0.71783	-0.78032	-0.8429	-0.90975	-0.97249	-1.04101
0.240395	0.083356	-0.34437	-0.40625	-0.47708	-0.54698	-0.61574	-0.68648	-0.75735	-0.83661	-0.91429	-0.9974
0.164822	0.076489	-0.46597	-0.55318	-0.6566	-0.75699	-0.85494	-0.95568	-1.05587	-1.16317	-1.26405	-1.37994
0.07149	0.053227	-0.18699	-0.31538	-0.45201	-0.59673	-0.74172	-0.89321	-1.04618	-1.21014	-1.37002	-1.55789
0.005887	0.016034	0.683	0.530282	0.313983	0.070096	-0.20308	-0.51314	-0.84771	-1.2281	-1.61944	-2.10287
0.000212	0.003011	0.975014	0.92392	0.823415	0.687448	0.518123	0.309032	0.06922	-0.2171	-0.52403	-0.91267
0.001821	-0.00906	0.657134	0.8027	0.917443	0.976857	0.993969	0.98433	0.9377	0.846377	0.718975	0.526784
0.006581	-0.01813	-0.19582	0.089433	0.364465	0.575815	0.739264	0.861929	0.94159	0.983852	0.989722	0.969685
0.014655	-0.02736	-0.906	-0.57383	-0.23879	0.037361	0.270364	0.471245	0.63373	0.769247	0.867116	0.944043
0.025377	-0.03328	-1.97355	-1.62555	-1.25409	-0.92467	-0.61914	-0.33839	-0.09191	0.133122	0.322385	0.510847
0.072324	-0.03532	-0.58233	-0.45362	-0.31355	-0.19491	-0.08488	0.023067	0.122347	0.192267	0.283519	0.377565
0.119502	-0.03445	-0.3785	-0.28772	-0.18876	-0.10159	-0.02053	0.058149	0.131264	0.206504	0.258284	0.331538
0.183073	-0.03256	-0.23113	-0.16837	-0.09971	-0.03778	0.020553	0.078112	0.13194	0.188086	0.229949	0.285868
0.252785	-0.03016	-0.19823	-0.14981	-0.0959	-0.0466	0.000366	0.047549	0.09161	0.137459	0.177053	0.2236
0.326542	-0.02631	-0.13156	-0.0904	-0.0446	-0.00262	0.037417	0.077553	0.115086	0.154145	0.184031	0.224028
0.398268	-0.02292	-0.06448	-0.02962	0.008761	0.044012	0.07755	0.111162	0.142564	0.175471	0.200725	0.233833
0.472046	-0.01949	-0.03822	-0.00914	0.023072	0.052766	0.081122	0.109932	0.13705	0.165319	0.187615	0.215187
0.547918	-0.01716	-0.04541	-0.02214	0.004079	0.028717	0.052487	0.07703	0.100297	0.124433	0.145273	0.169469
0.599177	-0.01539	-0.0488	-0.02959	-0.00738	0.013548	0.033882	0.055096	0.07531	0.096178	0.113779	0.13549
0.691375	-0.01074	0.024148	0.040143	0.057648	0.074084	0.090306	0.107411	0.123235	0.140132	0.159628	0.175317
0.765202	-0.00861	0.009355	0.020915	0.034504	0.047433	0.059882	0.073399	0.085779	0.09941	0.112932	0.12752
0.836972	-0.00633	0.000454	0.007443	0.016227	0.024752	0.032728	0.041871	0.050243	0.059344	0.066306	0.075429
0.888238	-0.00476	0.105366	0.112956	0.121199	0.129086	0.136794	0.14524	0.152241	0.161165	0.176259	0.185493
0.933353	-0.0034	0.06364	0.064978	0.067898	0.070339	0.072202	0.07519	0.077367	0.07982	0.080787	0.081923
0.994813	-0.00059	0.096919	0.099599	0.10094	0.101958	0.101883	0.100564	0.097588	0.093877	0.086768	0.076283

SECTION E

SECTION E (y=1200 mm)			alpha_c									
x/c	z/c	Cp	-1.94	-0.85	0.36	1.49	2.59	3.7	4.75	5.88	6.92	8.12
0.993767	0.009311		0.110526	0.104456	0.100802	0.098902	0.096577	0.094572	0.09226	0.090778	0.0886	0.084544
0.903007	0.02726		0.004133	-0.00356	-0.01033	-0.01548	-0.02073	-0.02562	-0.03039	-0.03444	-0.03853	-0.04363
0.769261	0.050302		-0.15422	-0.16434	-0.17573	-0.18572	-0.19532	-0.20452	-0.21295	-0.2208	-0.22775	-0.2344
0.683798	0.06275		-0.19021	-0.2071	-0.22426	-0.23909	-0.25358	-0.26762	-0.28094	-0.2941	-0.3061	-0.31854
0.557196	0.077767		-0.26756	-0.29492	-0.32156	-0.34493	-0.36785	-0.39061	-0.41247	-0.43457	-0.45499	-0.47719
0.358437	0.093077		-0.47174	-0.49314	-0.53998	-0.58667	-0.63155	-0.67713	-0.72095	-0.76654	-0.80962	-0.85772
0.270026	0.091965		-0.41984	-0.43562	-0.4665	-0.52397	-0.58276	-0.64472	-0.70357	-0.76535	-0.82329	-0.889
0.192005	0.087889		-0.50827	-0.57896	-0.64543	-0.71661	-0.79709	-0.8791	-0.95839	-1.04354	-1.12389	-1.21575
0.167494	0.085034		-0.50079	-0.57963	-0.65097	-0.7169	-0.80165	-0.89211	-0.97927	-1.07385	-1.16333	-1.26605
0.117096	0.075023		-0.43977	-0.54106	-0.65542	-0.75925	-0.86538	-0.97677	-1.0881	-1.20784	-1.32418	-1.45911
0.074153	0.06122		-0.15472	-0.26476	-0.39358	-0.51533	-0.63788	-0.77015	-0.90219	-1.04348	-1.18438	-1.34847
0.040328	0.04619		0.176259	0.05631	-0.07794	-0.21545	-0.3547	-0.49733	-0.6533	-0.82072	-0.98251	-1.18026
0.021846	0.0372		0.349466	0.214007	0.041066	-0.1333	-0.304	-0.51334	-0.7234	-0.95699	-1.12507	-1.36324
0.002582	0.019127		0.9482	0.884393	0.775933	0.64019	0.474577	0.27643	0.052189	-0.21387	-0.49578	-0.85181
-0.00048	0.00728		0.825751	0.912067	0.971703	0.991062	0.988712	0.96081	0.900577	0.803041	0.677758	0.496006
0.001126	-0.0049		0.122126	0.339526	0.549216	0.708025	0.83	0.918675	0.97262	0.996806	0.997888	0.97629
0.004439	-0.01241		-0.52128	-0.24803	0.030135	0.257183	0.450303	0.613999	0.744543	0.851228	0.924243	0.975094
0.012924	-0.02125		-1.49976	-1.17731	-0.83851	-0.54741	-0.28471	-0.04671	0.161755	0.354277	0.512315	0.665425
0.029872	-0.02839		-1.9554	-1.70868	-1.43868	-1.17153	-0.88622	-0.6535	-0.43525	-0.21987	-0.03459	0.159882
0.058575	-0.02967		-0.71694	-0.59273	-0.45879	-0.33892	-0.22442	-0.11587	-0.01517	0.08991	0.181404	0.276546
0.091473	-0.0297		-0.51595	-0.42545	-0.32589	-0.23584	-0.14997	-0.06745	0.010852	0.091348	0.163722	0.241608
0.169572	-0.02721		-0.24465	-0.18899	-0.12818	-0.07242	-0.01956	0.033437	0.083332	0.134762	0.182058	0.235567
0.319574	-0.02162		-0.13502	-0.10178	-0.0644	-0.02915	0.005089	0.039541	0.072008	0.105924	0.137397	0.17273
0.465458	-0.01579		-0.05822	-0.0356	-0.00973	0.014786	0.038186	0.062266	0.085103	0.109499	0.132008	0.157438
0.588708	-0.01014		-0.05289	-0.03753	-0.02019	-0.00352	0.013133	0.030352	0.046601	0.063964	0.080365	0.099056
0.757194	-0.0034		0.042674	0.051725	0.062196	0.072223	0.082223	0.092563	0.102304	0.112357	0.121978	0.132923
0.972966	0.004483		0.110526	0.104456	0.100802	0.098902	0.096577	0.094572	0.09226	0.090778	0.0886	0.084544

SECTION A,B,D,F

SECTION A (y=160 mm)	alpha_c									
x/c	**-1.94**	**-0.85**	**0.36**	**1.49**	**2.59**	**3.7**	**4.75**	**5.88**	**6.92**	**8.12**
0.038	0.0635	0.0532	0.0574	0.0568	0.0542	0.0575	0.0555	0.0537	0.0524	0.0504
0.17	-0.5341	-0.6089	-0.7184	-0.8198	-0.919	-1.0189	-1.1163	-1.2195	-1.3195	-1.4347
0.36	-0.4607	-0.4811	-0.5422	-0.5954	-0.6446	-0.6944	-0.746	-0.7995	-0.8462	-0.8988
0.56	-0.1929	-0.2292	-0.2587	-0.2828	-0.3049	-0.326	-0.3473	-0.3697	-0.3874	-0.4062
SECTION B (y=450 mm)										
x/c										
0.038	0.0463	0.0457	0.0461	0.0457	0.0458	0.0456	0.0453	0.0452	0.0446	0.0444
0.17	-0.5137	-0.582	-0.6866	-0.7887	-0.8859	-0.9863	-1.0861	-1.1914	-1.2925	-1.4085
0.36	-0.4791	-0.5203	-0.5807	-0.6344	-0.6853	-0.7379	-0.7892	-0.8412	-0.89	-0.9434
0.56	-0.231	-0.2742	-0.3029	-0.3283	-0.3529	-0.3748	-0.3949	-0.4144	-0.4317	-0.4487
SECTION D (y=990 mm)										
x/c										
0.038	0.1145	-0.0117	-0.166	-0.3182	-0.4764	-0.6422	-0.8118	-0.9936	-1.1679	-1.387
0.17	-0.5003	-0.5882	-0.6836	-0.7606	-0.8465	-0.9445	-1.042	-1.1442	-1.2414	-1.3528
0.36	-0.4868	-0.5143	-0.5685	-0.6203	-0.6711	-0.7224	-0.7714	-0.8213	-0.8681	-0.9202
0.56	-0.2257	-0.2502	-0.2776	-0.3021	-0.3241	-0.3458	-0.366	-0.3863	-0.4045	-0.4239
SECTION F (y=1500 mm)										
x/c										
0.038	0.1167	0.0265	-0.0835	-0.1916	-0.3023	-0.418	-0.5355	-0.6615	-0.7831	-0.9181
0.17	-0.4544	-0.5107	-0.567	-0.6184	-0.6724	-0.7301	-0.7877	-0.853	-0.9162	-0.9879
0.36	-0.3563	-0.3801	-0.4079	-0.4349	-0.4616	-0.4895	-0.5198	-0.5496	-0.5808	-0.6163
0.56	-0.1726	-0.183	-0.1966	-0.2122	-0.2283	-0.2461	-0.2673	-0.2905	-0.3139	-0.3426

9 APPENDIX C. Strain gauge and stress measurements

9.1 TEST T40: V=40 m/s, Transition trips at x/c= 0.014

Stress measured (strain multiplied by 73100, having assumed E=73.1 GPa)

alpha cor	N	Mfl_root	STRESS [MPa]																						
[°]	Kg	Kgm	R19 B	2	3	4	5	6	7	8	9	10	11	12	13	14	15	R16 A	R16 B	R16 C	17	R18 A	R18 B	R18 C	R19 A	R19 C
-1.940	6.839	5.039	0.26	16.16	0.55	-0.11	-1.66	3.52	-0.88	1.63	-0.39	2.89	-0.18	1.67	-5.94	6.47	-2.10	-0.84	0.32	-0.12	-2.31	0.64	-3.38	-3.20	3.07	-3.06
-0.850	13.536	9.782	-0.49	27.85	1.08	-0.07	-3.68	5.47	-1.54	2.96	-1.74	3.86	-0.89	2.44	-11.62	11.04	-2.58	1.13	1.63	0.68	-4.57	-0.40	-6.30	-5.37	6.35	-7.06
0.250	20.370	14.540	-0.78	34.06	0.93	0.09	-5.75	6.98	-2.49	3.93	-3.49	4.61	-1.95	2.82	-14.55	13.45	-10.45	0.73	8.41	9.65	-7.31	-2.01	-9.43	-6.28	8.04	-9.06
0.360	20.989	14.964	-0.56	35.31	0.95	-0.42	-5.60	7.60	-2.84	3.78	-3.11	5.16	-1.97	2.93	-15.42	14.47	-6.79	2.54	6.43	5.14	-7.82	-1.77	-9.87	-7.05	8.85	-9.94
1.490	27.873	19.765	-0.78	41.08	0.71	-0.38	-7.60	9.50	-3.95	4.93	-4.64	6.38	-3.03	3.61	-17.54	16.30	-17.47	1.24	13.67	14.18	-11.11	-3.67	-13.23	-7.82	10.23	-11.70
2.590	34.378	24.364	-1.13	46.64	0.62	-0.35	-9.43	11.26	-4.85	6.03	-5.92	7.38	-3.76	4.26	-19.66	18.06	-27.34	0.05	19.96	21.71	-14.47	-5.48	-16.59	-8.55	11.84	-13.52
3.700	41.261	29.318	-1.46	51.61	0.38	-0.42	-11.48	13.08	-5.89	7.14	-7.46	8.55	-4.78	4.94	-21.20	19.59	-42.03	-0.84	26.83	29.31	-17.76	-7.53	-19.88	-9.06	13.16	-15.13
4.750	46.616	33.230	-1.73	55.99	0.16	-0.40	-13.38	14.55	-6.91	8.19	-8.77	9.58	-5.73	5.58	-22.73	20.98	-58.04	-1.35	32.90	35.53	-20.76	-9.43	-22.81	-9.58	14.18	-16.52
5.880	54.178	38.779	-1.95	60.45	-0.11	-0.24	-15.42	16.23	-8.04	9.28	-10.31	10.60	-6.61	6.24	-24.20	21.86	-75.37	-1.92	39.33	42.18	-23.98	-11.40	-25.66	-10.31	15.20	-17.91
6.920	59.420	42.596	-2.37	64.99	-0.33	-0.22	-17.32	17.91	-9.14	10.31	-11.77	11.62	-7.60	6.95	-25.44	22.95	-92.76	-1.90	45.61	48.25	-27.05	-13.45	-28.29	-10.97	15.94	-19.01
8.120	67.153	48.044	-2.81	69.88	-0.38	-0.20	-19.23	19.66	-10.23	11.48	-13.23	12.87	-8.70	7.60	-26.90	24.27	-111.84	-2.23	52.27	55.04	-30.41	-15.57	-31.14	-11.84	16.67	-20.25

9.2 TEST T35: V=35 m/s, Transition trips at x/c= 0.014

Stress measured (strain multiplied by 73100, having assumed E=73.1 GPa)

N	Mfl root	alpha c	STRESS [MPa]																						
[kg]	Kg m	deg	R19 B	2	3	4	5	6	7	8	9	10	11	12	13	14	15	R16 A	R16 B	R16 C	17	R18 A	R18 B	R18 C	R19 A	R19 C
2.457	1.921	-2.550	-0.64	5.57	0.11	-0.49	-1.00	1.45	-0.92	0.74	-0.42	1.54	-0.56	0.96	-1.99	2.34	-1.82	-1.53	-0.06	-0.45	-1.77	0.26	-1.66	-1.25	0.66	-0.94
5.765	4.362	-1.880	-0.66	12.57	0.38	-0.49	-1.84	2.51	-1.36	1.32	-0.89	2.16	-0.89	1.38	-5.29	5.21	-2.11	-1.24	0.11	-0.12	-2.74	-0.05	-2.97	-2.33	2.43	-3.00
10.889	7.955	-0.820	-0.91	21.86	0.69	-0.51	-3.15	4.04	-1.96	2.22	-1.70	3.13	-1.49	2.05	-9.58	8.77	-3.35	-0.38	1.22	0.76	-4.40	-0.86	-5.31	-3.97	4.93	-5.83
16.113	11.538	0.240	-1.61	26.02	0.75	-0.20	-4.85	5.37	-2.40	3.33	-3.03	3.73	-2.13	2.49	-11.99	10.67	-8.92	-0.69	7.15	8.92	-6.44	-2.19	-7.68	-4.97	6.39	-7.53
16.710	11.943	0.370	-1.46	29.17	0.78	-0.40	-4.87	6.03	-2.58	3.44	-2.74	4.26	-2.17	2.78	-13.30	11.84	-6.20	1.06	5.38	4.83	-6.66	-1.84	-7.97	-5.56	7.12	-8.55
17.327	12.363	0.490	-1.57	27.34	0.64	-0.43	-5.14	5.88	-2.84	3.26	-3.14	4.17	-2.28	2.69	-12.72	11.55	-9.50	-0.12	7.60	7.97	-7.05	-2.17	-8.04	-5.12	7.01	-8.19
21.806	15.468	1.410	-1.57	34.43	0.84	-0.54	-6.33	7.05	-3.42	3.97	-3.96	4.88	-2.93	3.11	-15.72	13.82	-9.80	2.21	7.97	7.14	-8.77	-2.79	-10.23	-6.25	8.70	-10.38
27.598	19.586	2.610	-1.77	39.62	0.84	-0.49	-8.04	8.77	-4.30	4.99	-5.09	5.87	-3.61	3.59	-17.76	15.79	-16.52	1.17	13.38	14.04	-11.55	-4.27	-13.16	-7.04	10.09	-12.13
32.347	23.057	3.660	-1.99	43.93	0.78	-0.51	-9.50	10.01	-5.03	5.80	-6.21	6.69	-4.36	4.15	-19.30	17.18	-23.25	0.26	18.06	19.74	-13.89	-5.68	-15.64	-7.53	11.18	-13.45
37.639	26.994	4.770	-2.12	47.95	0.71	-0.49	-11.04	11.40	-5.76	6.67	-7.25	7.60	-5.07	4.77	-20.91	18.35	-33.04	-0.56	23.32	25.73	-16.37	-7.17	-18.20	-7.97	12.21	-14.84
42.520	30.659	5.880	-2.30	51.90	0.58	-0.49	-12.65	12.79	-6.64	7.68	-8.41	8.41	-5.82	5.34	-22.08	19.59	-45.03	-1.07	28.51	31.14	-18.86	-8.63	-20.69	-8.48	13.16	-16.16
47.554	34.437	6.920	-2.54	55.34	0.51	-0.38	-14.04	13.96	-7.46	8.41	-9.43	9.28	-6.49	5.85	-23.17	20.54	-56.87	-1.40	33.33	36.11	-21.35	-10.01	-22.88	-8.99	13.82	-17.11
53.157	38.624	8.130	-3.05	59.21	0.42	-0.36	-15.72	15.50	-8.33	9.43	-10.75	10.23	-7.31	6.42	-24.49	21.49	-70.98	-1.73	39.25	42.32	-24.05	-11.70	-25.44	-9.80	14.69	-18.35
57.448	41.827	9.190	-3.38	62.65	0.29	-0.34	-17.11	16.74	-9.14	10.23	-11.77	10.97	-8.11	6.91	-25.51	22.44	-84.50	-2.08	44.15	47.30	-26.46	-13.16	-27.49	-10.38	15.35	-19.37
62.715	45.824	10.250	-3.47	65.50	0.09	-0.23	-18.57	17.91	-9.87	11.33	-12.79	11.77	-8.85	7.53	-26.39	22.59	-97.22	-2.26	49.05	52.27	-28.87	-14.77	-29.61	-10.97	16.08	-20.32