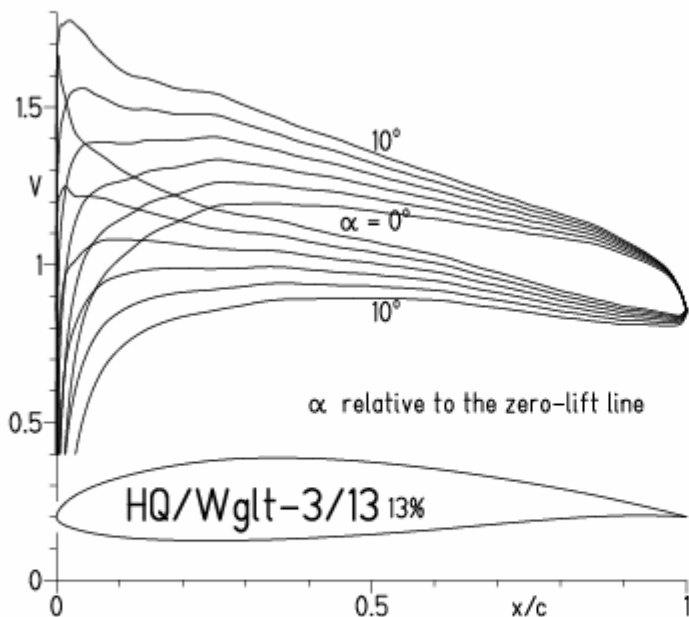


HQ/Winglet-3/13, N=11

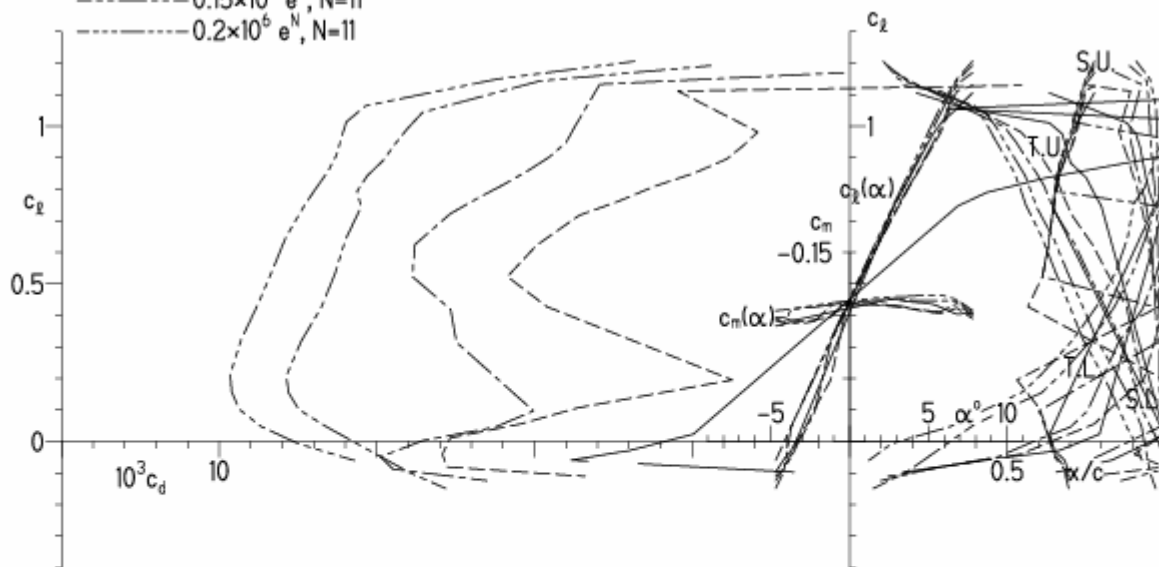
EPPLER 2005 V. 8.5.07 RUN 24.2.10 11:18



EPPLER 2005 V. 8.5.07 RUN 24.2

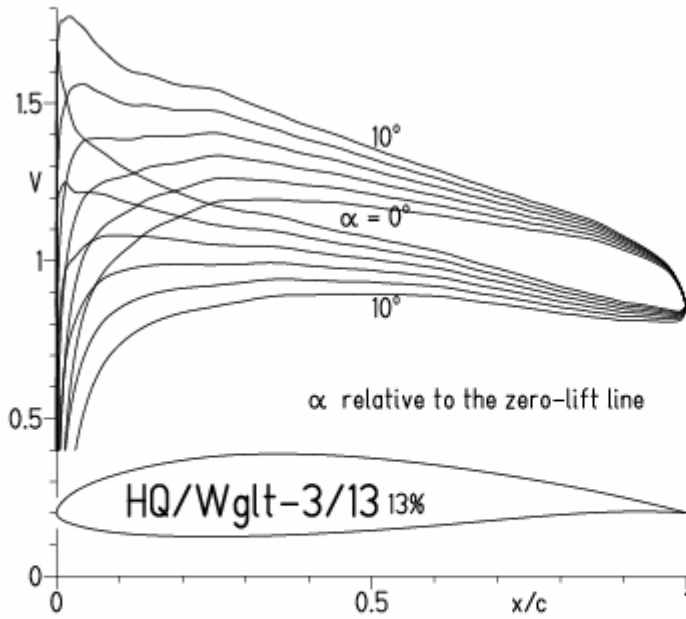
HQ/Wglt-3/13 13%

- $Re = 50\,000 e^N, N=11$
- - -  $75\,000 e^N, N=11$
- · -  $0.1 \times 10^6 e^N, N=11$
- · · -  $0.15 \times 10^6 e^N, N=11$
- · · · -  $0.2 \times 10^6 e^N, N=11$



HQ/Winglet-3/13, N=9

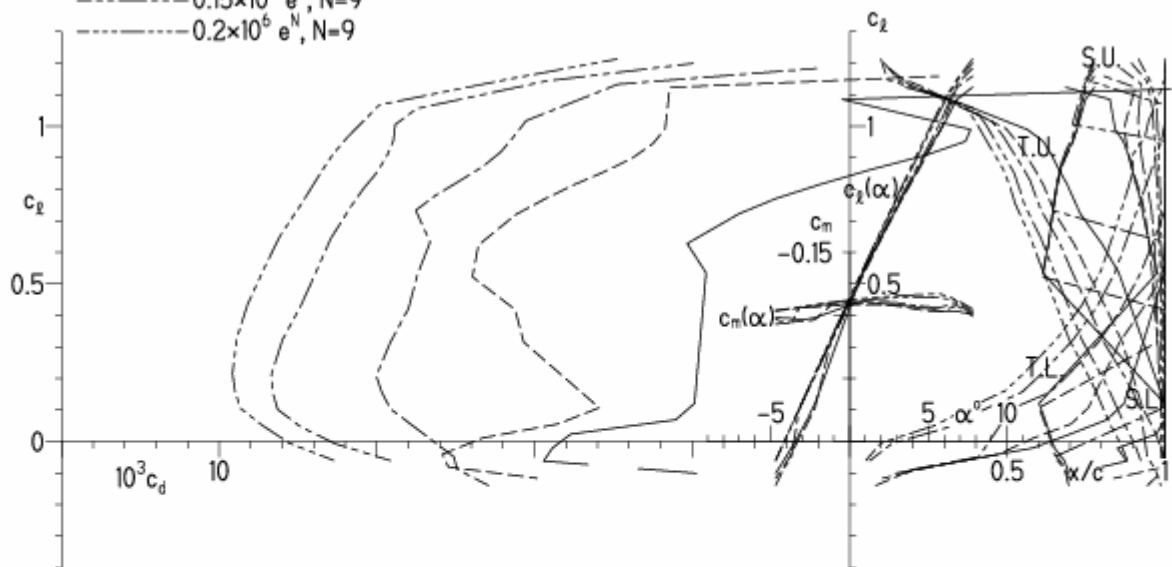
EPPLER 2005 V. 8.5.07 RUN 24.2.10 11:21



EPPLER 2005 V. 8.5.07

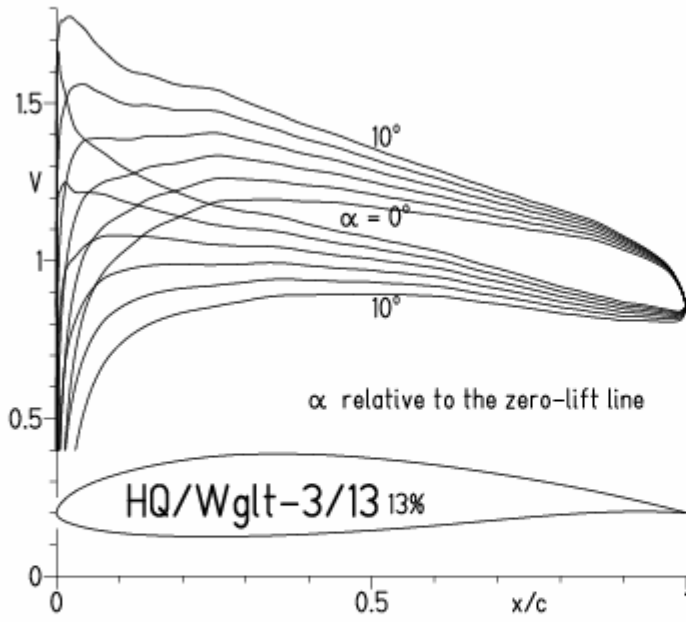
HQ/Wglt-3/13 13%

- $Re = 50\,000 e^N, N=9$
- - -  $75\,000 e^N, N=9$
- · -  $0.1 \times 10^6 e^N, N=9$
- · · -  $0.15 \times 10^6 e^N, N=9$
- · · · -  $0.2 \times 10^6 e^N, N=9$



HQ/Winglet-3/13, N=7

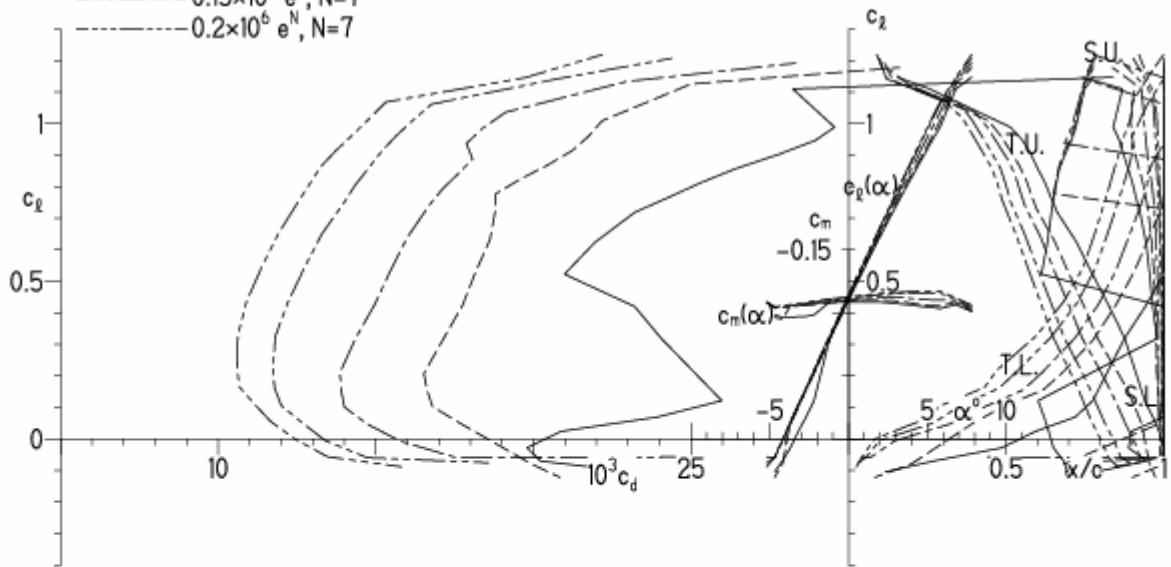
EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:23



EPPLER 2005 V. 8.5.0

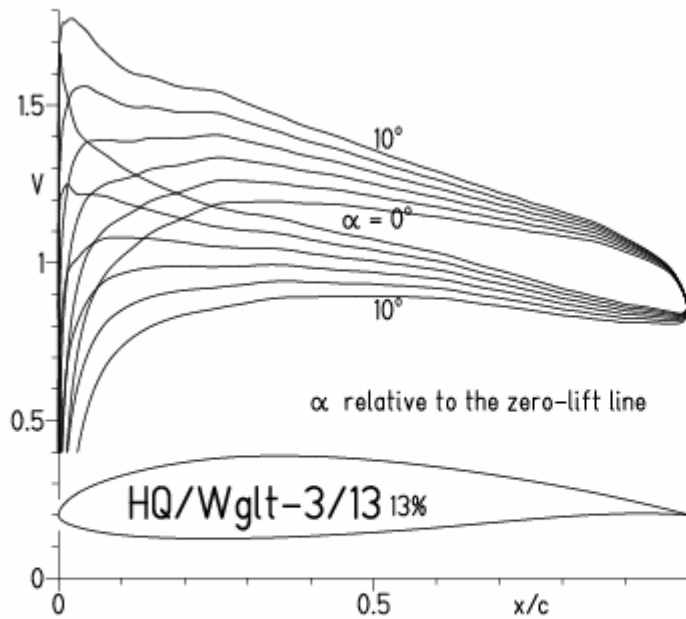
HQ/Wglt-3/13 13%

- $Re = 50\,000 e^N, N=7$
- - -  $75\,000 e^N, N=7$
- · -  $0.1 \times 10^6 e^N, N=7$
- · - ·  $0.15 \times 10^6 e^N, N=7$
- · - · -  $0.2 \times 10^6 e^N, N=7$



# HQ/Winglet-3/13, N=11, Turbulator nur auf der Oberseite

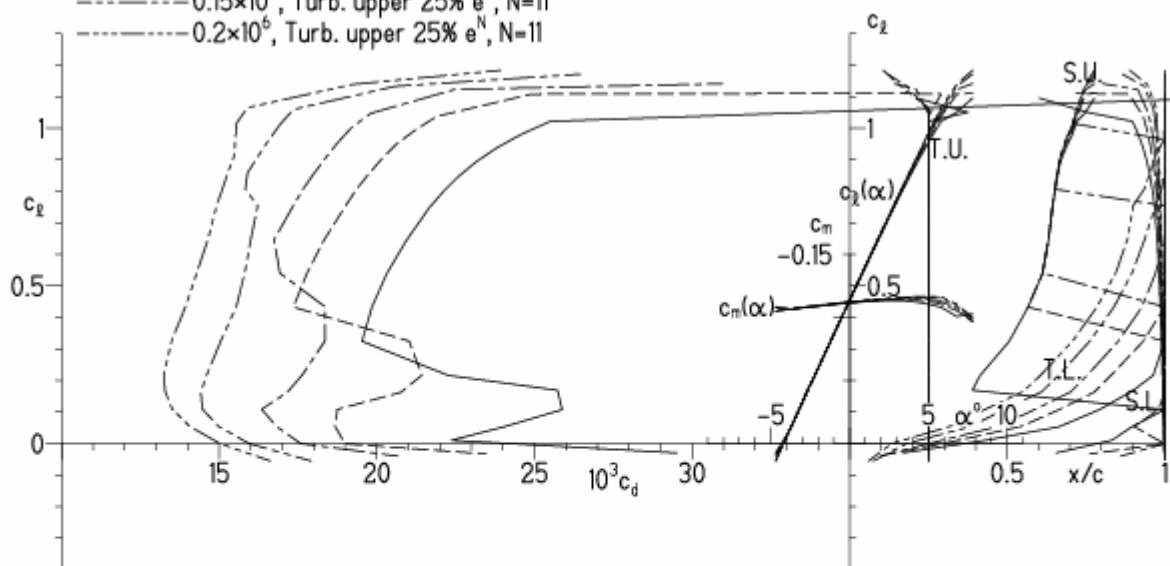
EPPLER 2005 V. 8.5.07 RUN 24.2.10 13:13



EPPLER 2005 V. 8.5.07 RUN 24.2.10 1

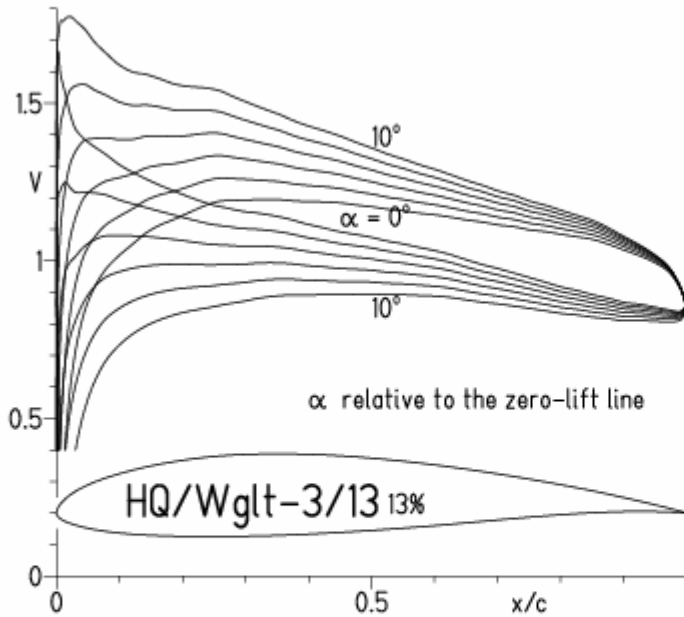
## HQ/Wglt-3/13 13%

- $Re = 50\,000$ , Turb. upper 25%  $e^N$ ,  $N=11$
- - -  $75\,000$ , Turb. upper 25%  $e^N$ ,  $N=11$
- · -  $0.1 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=11$
- · - ·  $0.15 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=11$
- · - · -  $0.2 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=11$



# HQ/Winglet-3/13, N=9, Turbulator nur auf der Oberseite

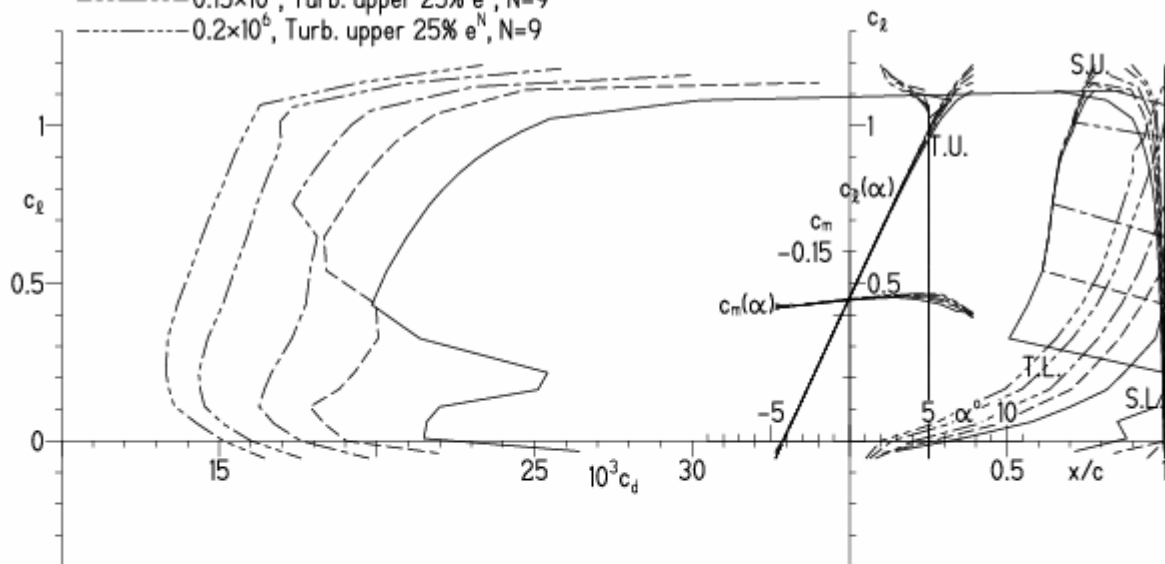
EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:11



EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:11

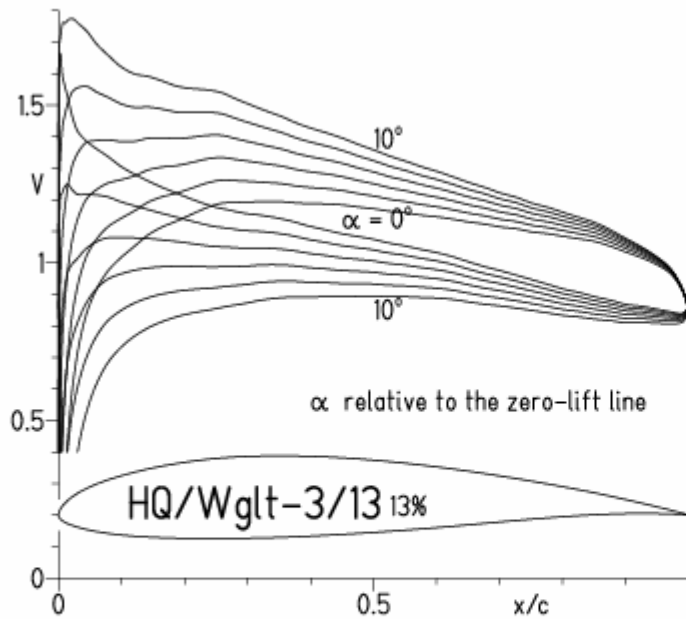
## HQ/Winglet-3/13 13%

- $Re = 50\,000$ , Turb. upper 25%  $e^N$ ,  $N=9$
- - -  $75\,000$ , Turb. upper 25%  $e^N$ ,  $N=9$
- · -  $0.1 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=9$
- · - ·  $0.15 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=9$
- · - · -  $0.2 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=9$



# HQ/Winglet-3/13, N=11, Turbulator auf der Ober- und Unterseite

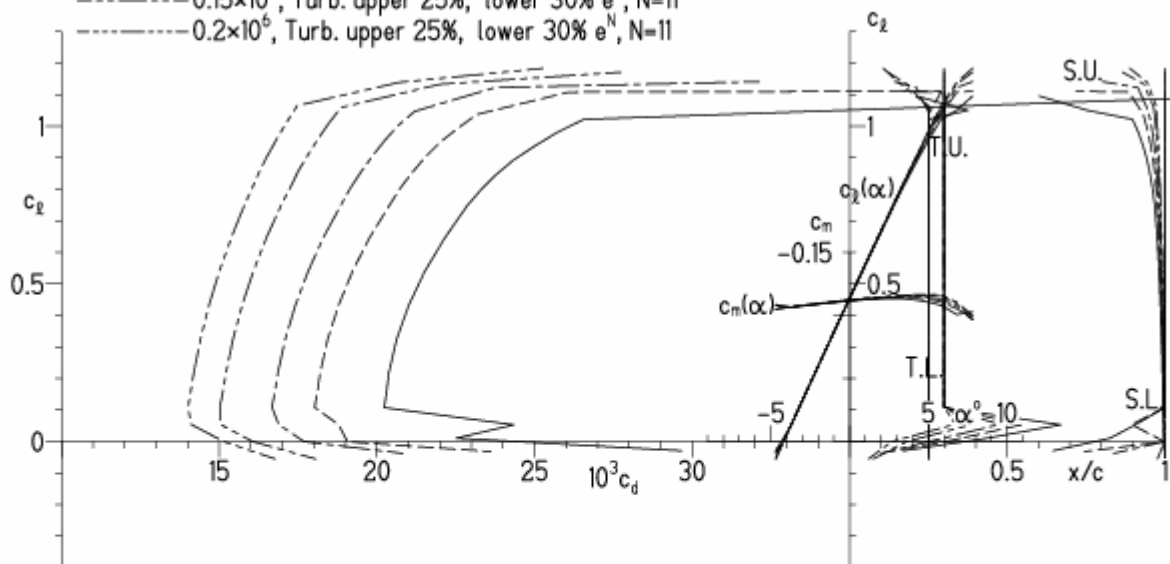
EPPLER 2005 V. 8.5.07 RUN 24.2.10 13:08



EPPLER 2005 V. 8.5.07 RUN 2

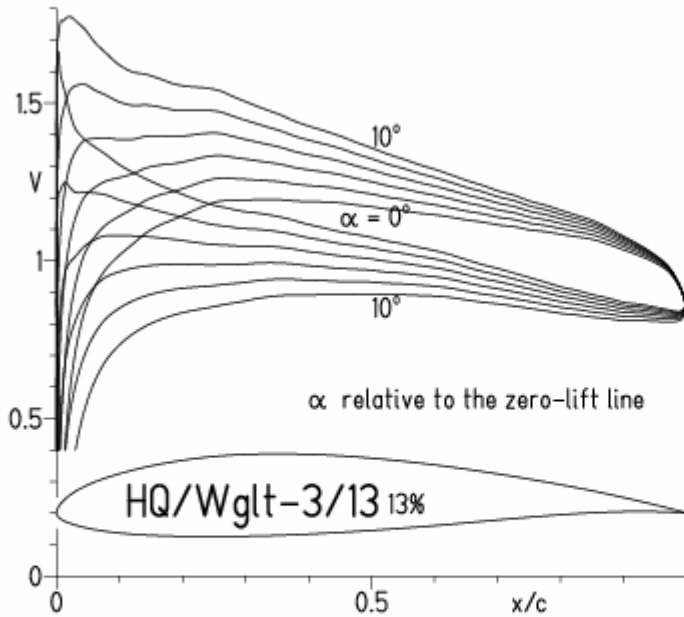
## HQ/Wglt-3/13 13%

- $Re = 50\,000$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$
- - -  $75\,000$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$
- · -  $0.1 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$
- · - ·  $0.15 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$
- · - · -  $0.2 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$



# HQ/Winglet-3/13, N=9, Turbulator auf der Ober- und Unterseite

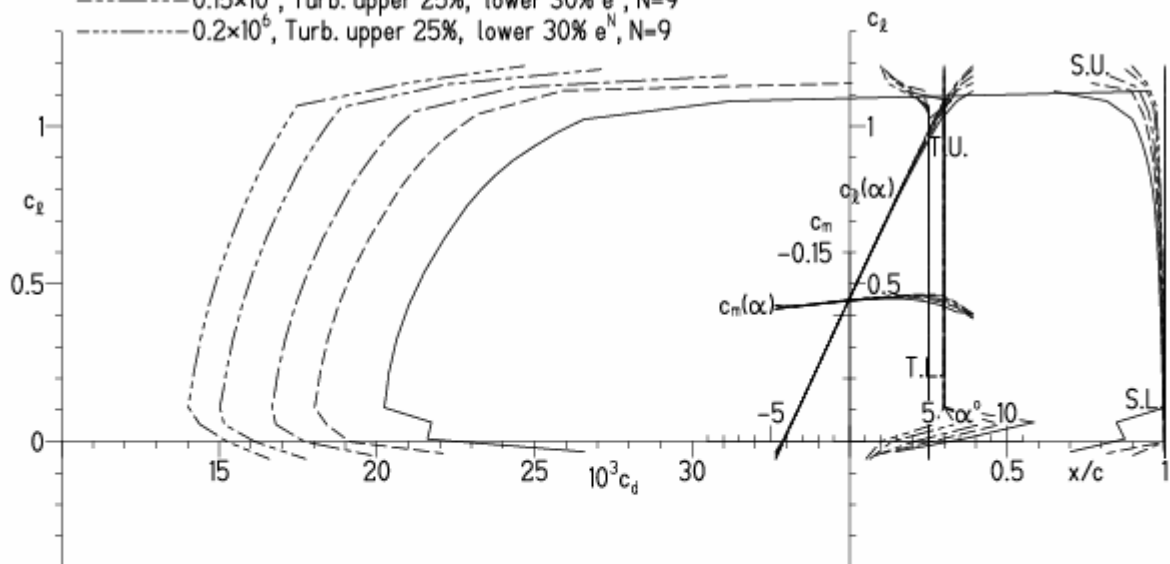
EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:18



EPPLER 2005 V. 8.5.07 R

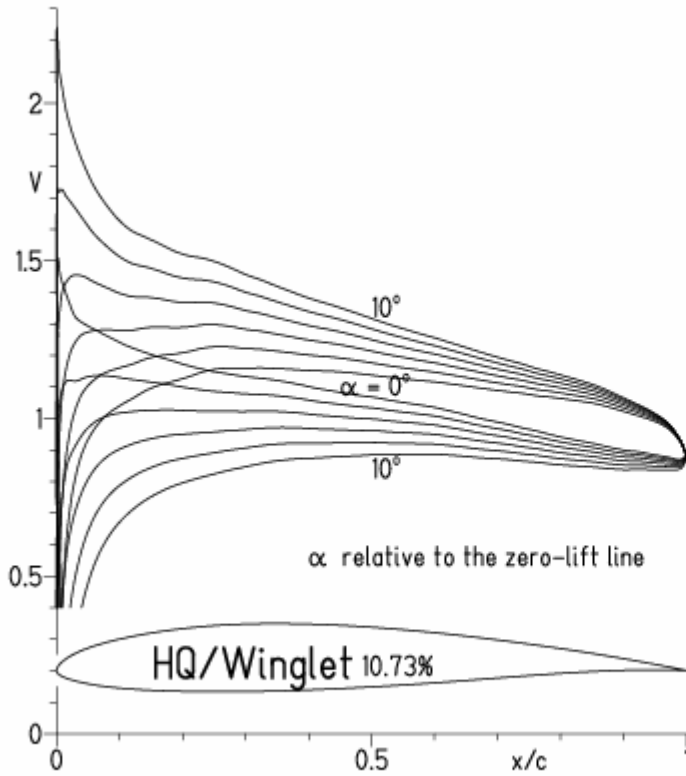
## HQ/Wglt-3/13 13%

- $Re = 50\,000$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$
- - -  $75\,000$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$
- · -  $0.1 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$
- · - ·  $0.15 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$
- · - · -  $0.2 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$

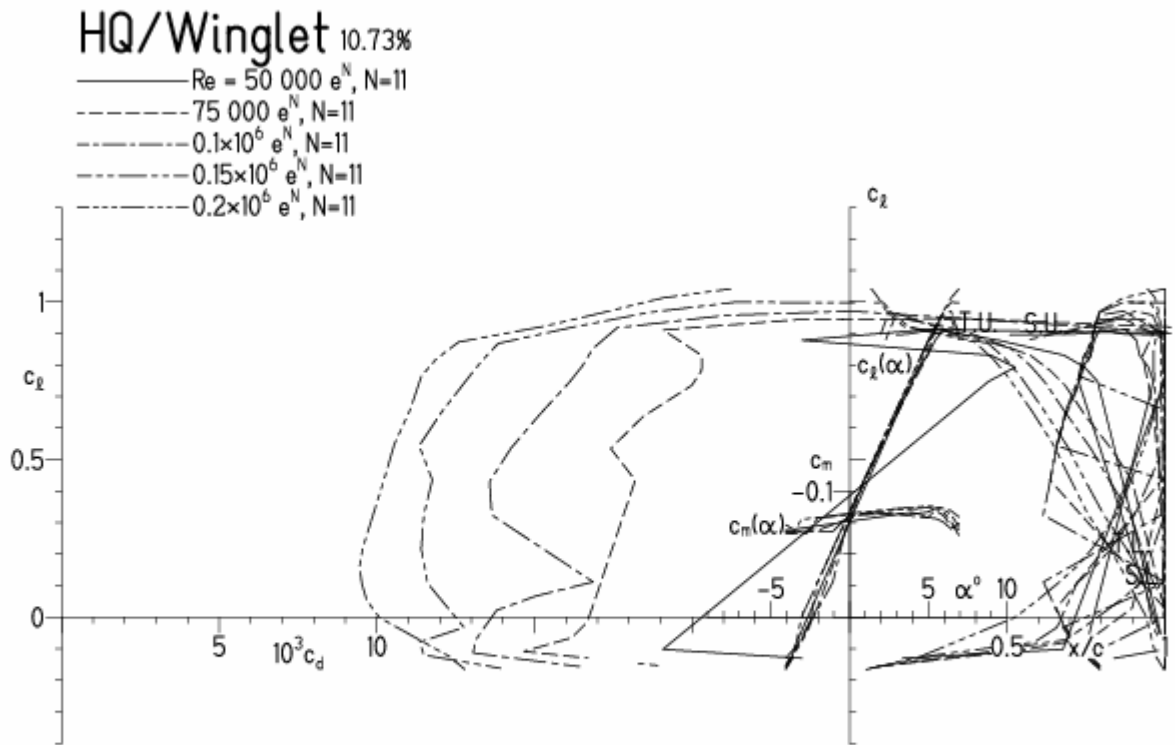


HQ/Winglet, N=11

EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:45

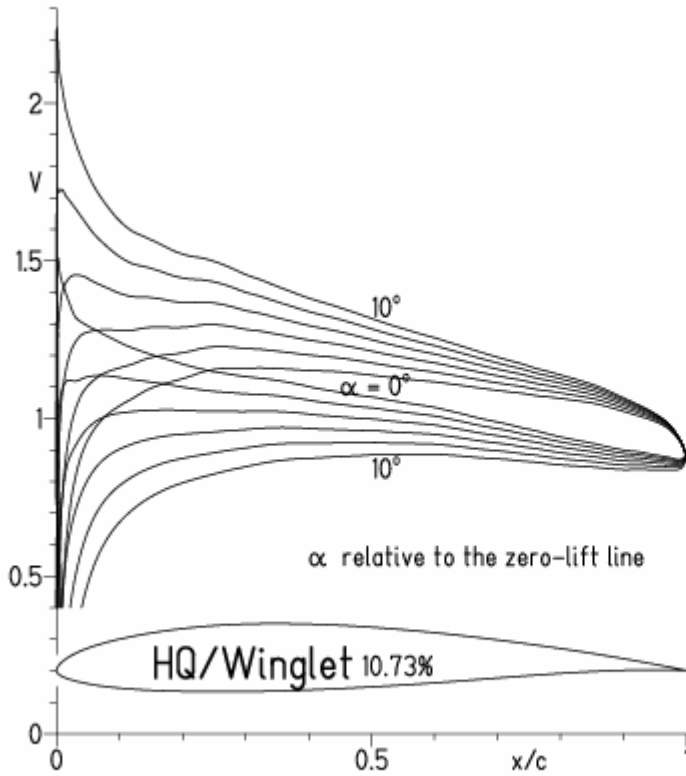


EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:4



HQ/Winglet, N=9

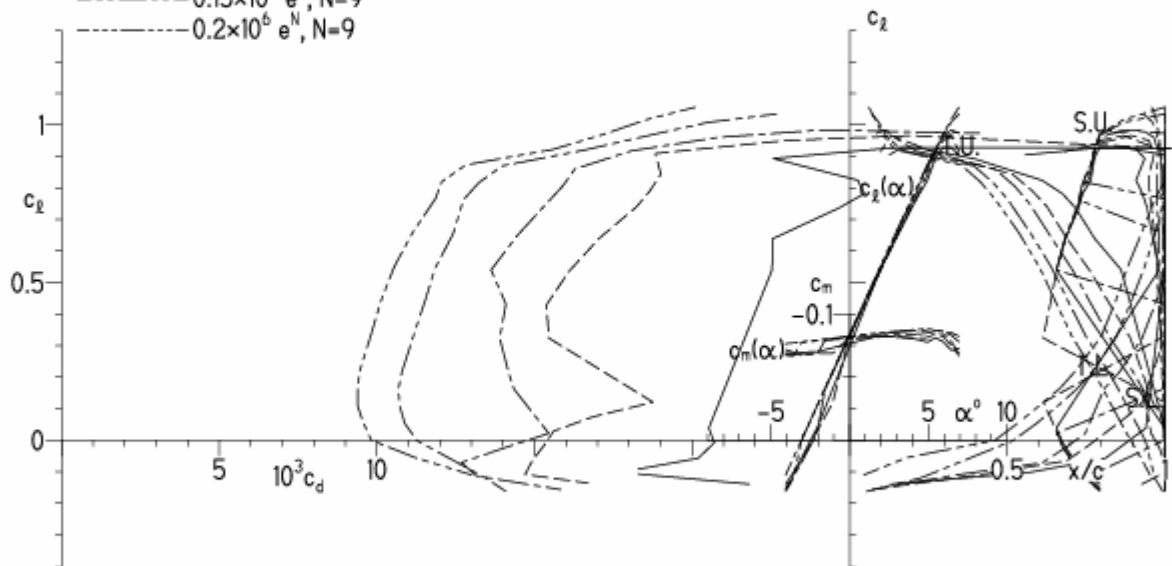
EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:42



EPPLER 2005 V. 8.5.07 RUN 24.

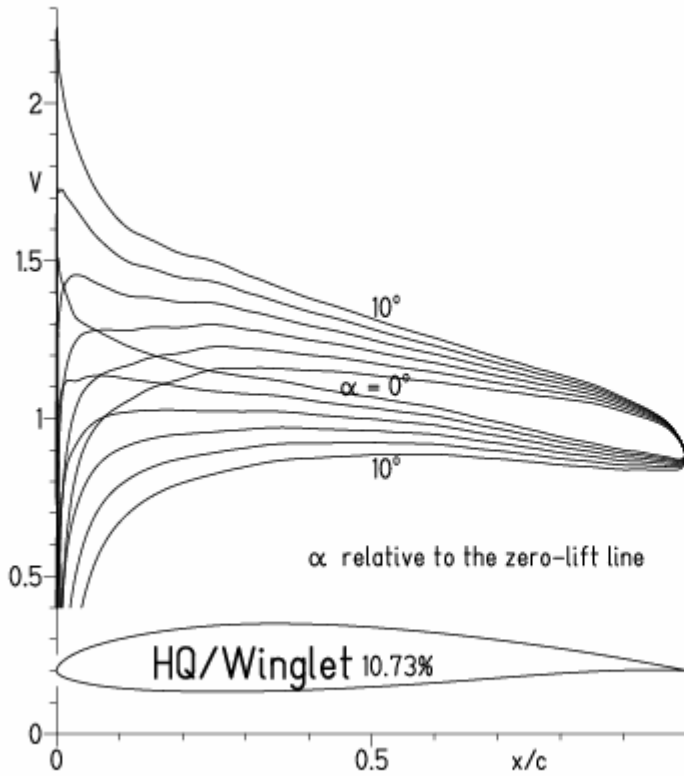
HQ/Winglet 10.73%

- $Re = 50\,000 e^N, N=9$
- - -  $75\,000 e^N, N=9$
- · -  $0.1 \times 10^6 e^N, N=9$
- · · -  $0.15 \times 10^6 e^N, N=9$
- · · ·  $0.2 \times 10^6 e^N, N=9$



HQ/Winglet, N=9

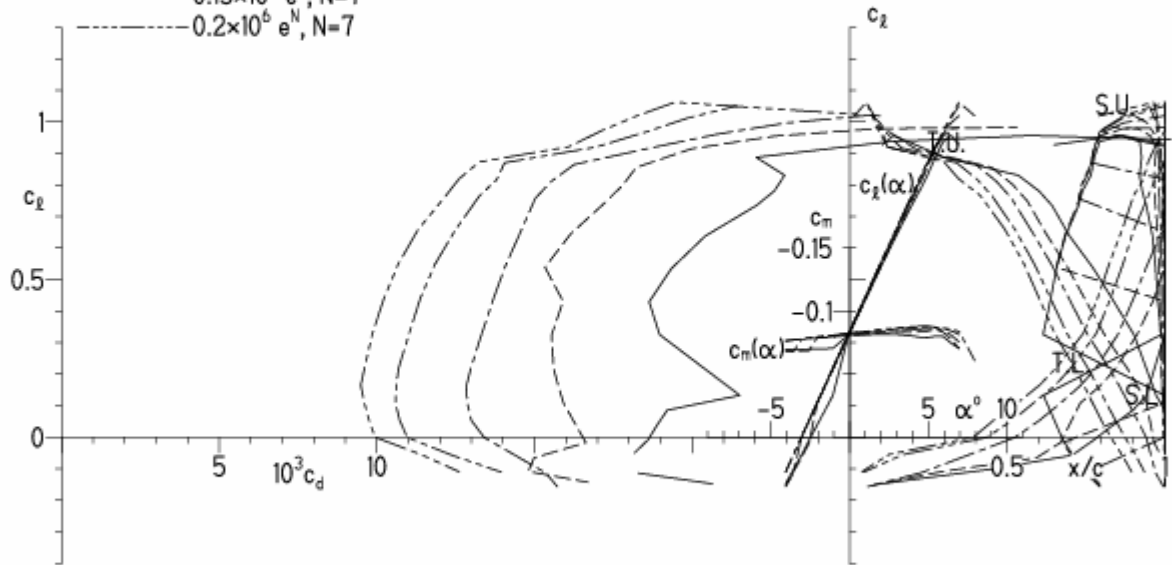
EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:47



EPPLER 2005 V. 8.5.07 RUN 24.2.10 12

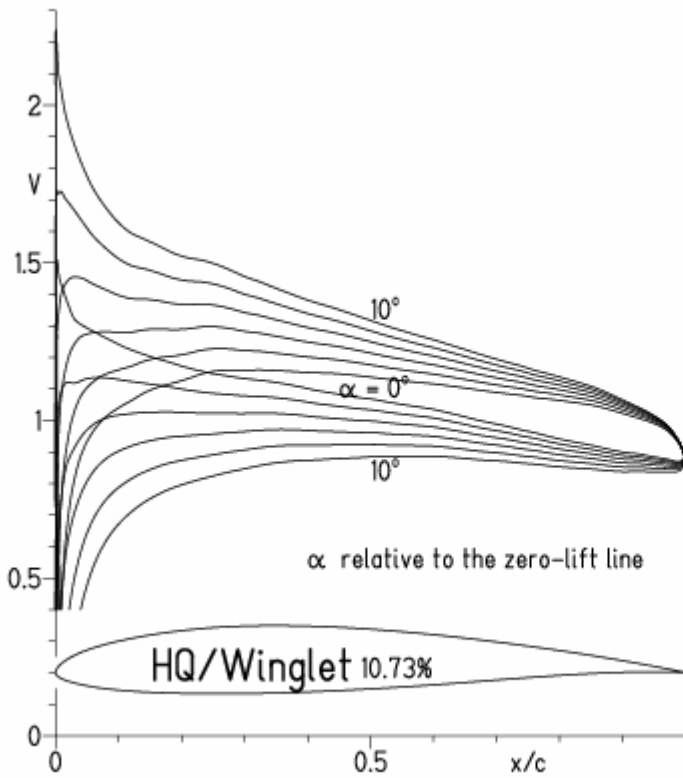
HQ/Winglet 10.73%

- $Re = 50\,000 e^N, N=7$
- - -  $75\,000 e^N, N=7$
- · -  $0.1 \times 10^6 e^N, N=7$
- · - ·  $0.15 \times 10^6 e^N, N=7$
- · - · -  $0.2 \times 10^6 e^N, N=7$



HQ/Winglet, N=11, Turbulator nur auf der Oberseite

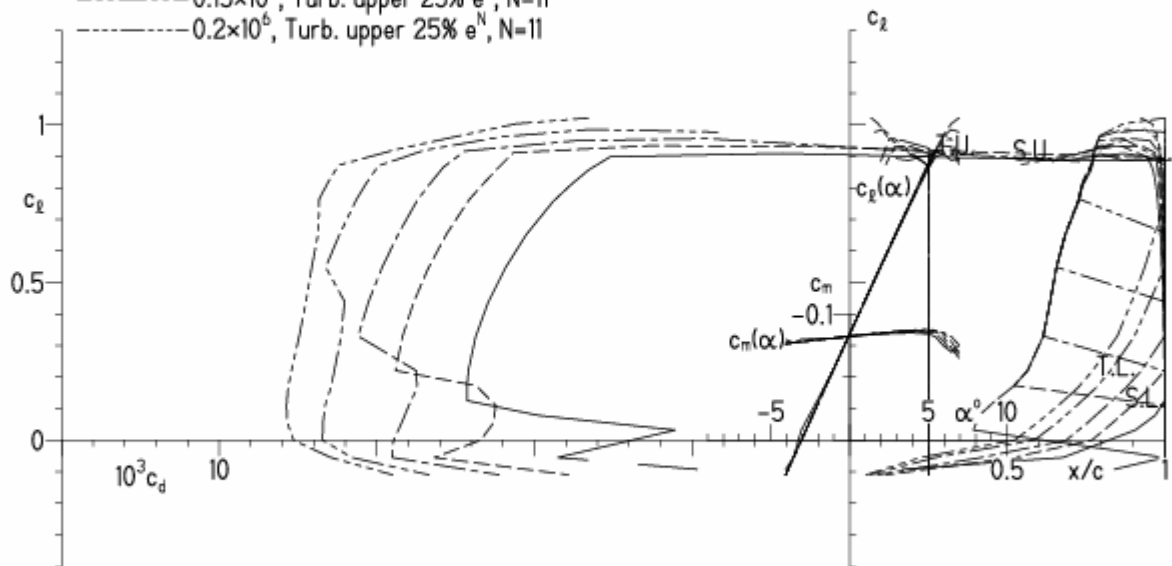
EPPLER 2005 V. 8.5.07 RUN 24.2.10 13:04



EPPLER 2005 V. 8.5.07 RUN 24.2.10 13:04

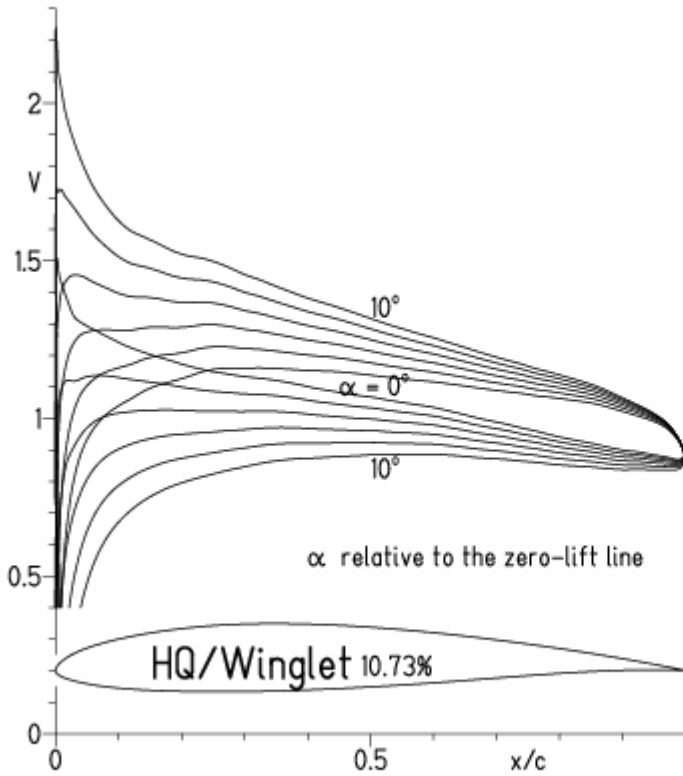
HQ/Winglet 10.73%

- $Re = 50\,000$ , Turb. upper 25%  $e^N$ ,  $N=11$
- - -  $75\,000$ , Turb. upper 25%  $e^N$ ,  $N=11$
- · -  $0.1 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=11$
- · - ·  $0.15 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=11$
- · - · -  $0.2 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=11$



HQ/Winglet, N=9, Turbulator nur auf der Oberseite

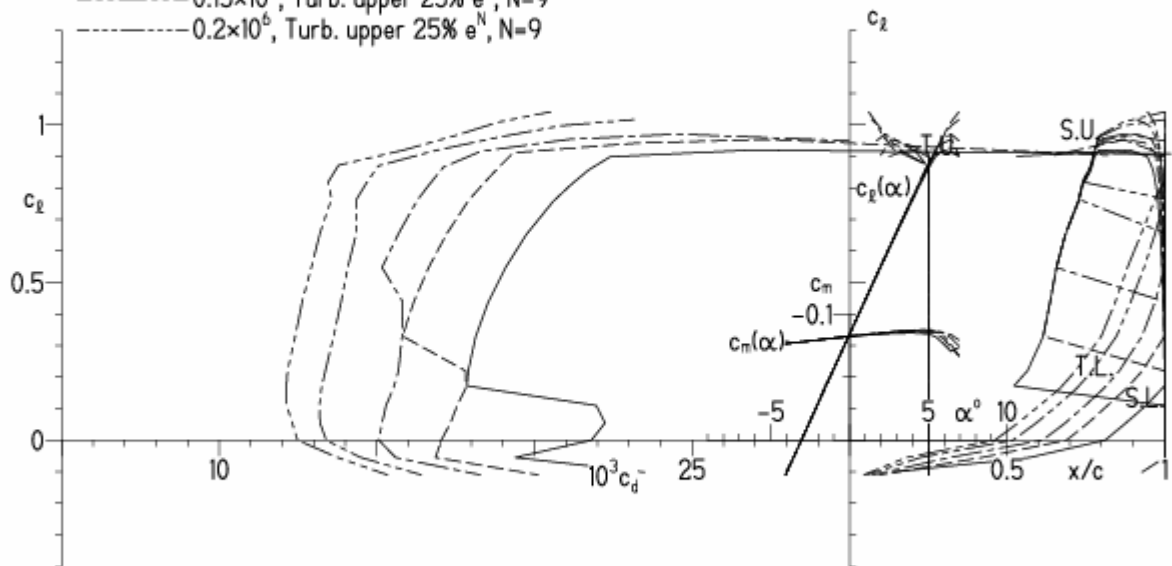
EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:53



EPPLER 2005 V.

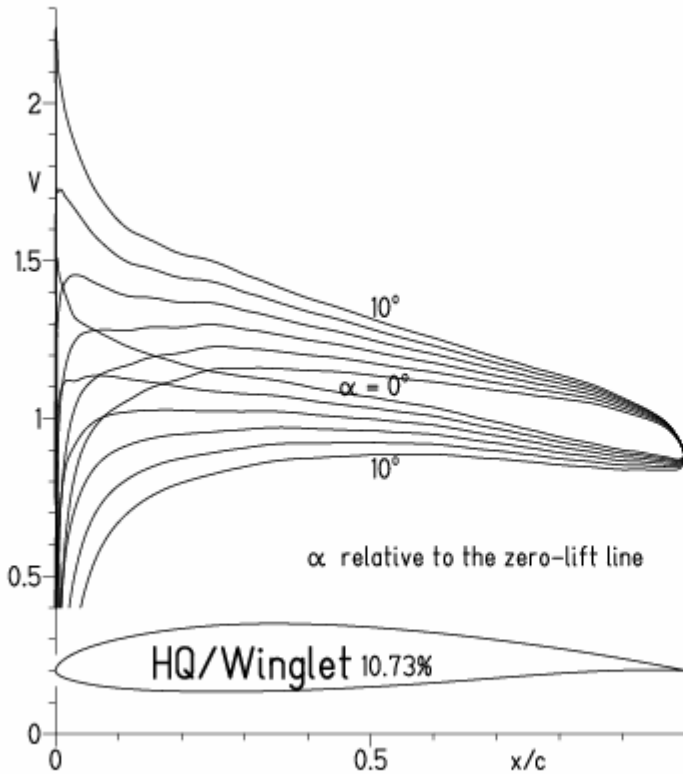
**HQ/Winglet 10.73%**

- $Re = 50\,000$ , Turb. upper 25%  $e^N$ ,  $N=9$
- - -  $75\,000$ , Turb. upper 25%  $e^N$ ,  $N=9$
- · -  $0.1 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=9$
- · · -  $0.15 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=9$
- · · ·  $0.2 \times 10^6$ , Turb. upper 25%  $e^N$ ,  $N=9$



HQ/Winglet, N=11, Turbulator auf der Ober- und Unterseite

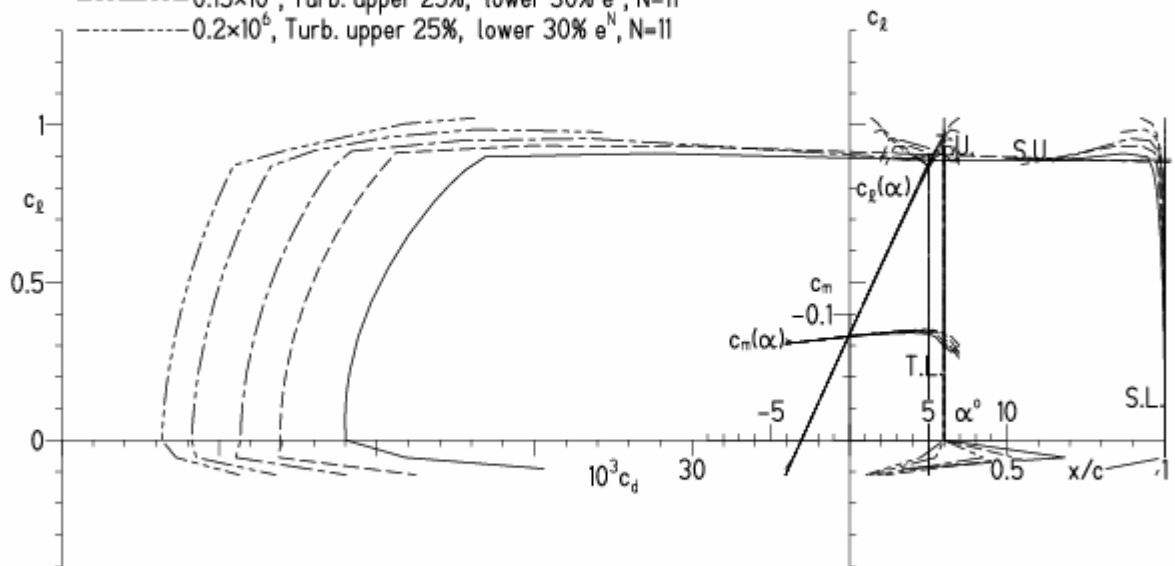
EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:58



EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:58

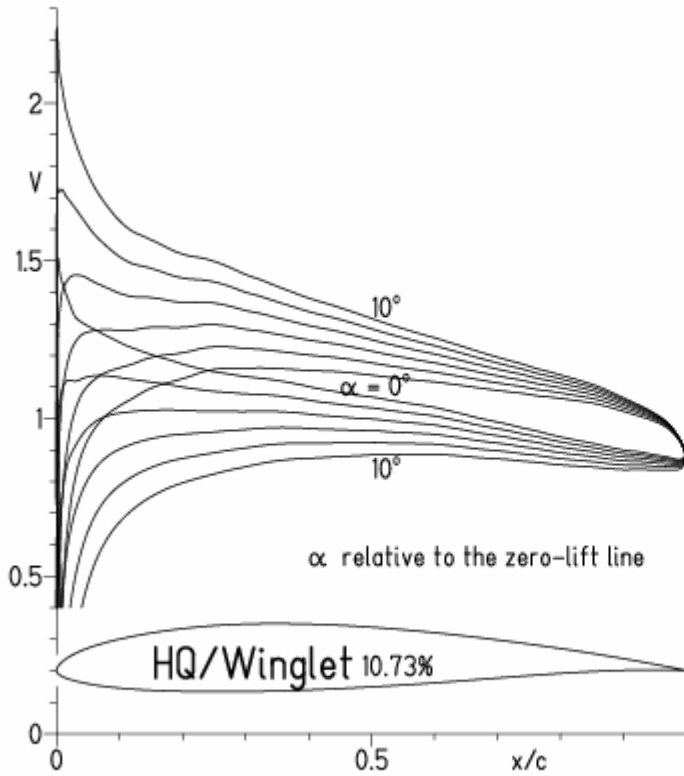
**HQ/Winglet 10.73%**

- $Re = 50\,000$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$
- - -  $75\,000$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$
- · -  $0.1 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$
- · - ·  $0.15 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$
- · - · -  $0.2 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=11$



HQ/Winglet, N=9, Turbulator auf der Ober- und Unterseite

EPPLER 2005 V. 8.5.07 RUN 24.2.10 12:57



EPPLER 200

HQ/Winglet 10.73%

- $Re = 50\,000$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$
- - -  $75\,000$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$
- · -  $0.1 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$
- · - ·  $0.15 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$
- · - · -  $0.2 \times 10^6$ , Turb. upper 25%, lower 30%  $e^N$ ,  $N=9$

