

How CERTIF-ICE has demonstrated
that the use of icing tunnels is not necessary for
Supplemental Type Certification

and

How the FAA/EASA/TC have, all 3, accepted this
argument and granted STC
to 3 aircraft in Canada, USA and Europe

A major landmark towards a 21st century certification
methodology

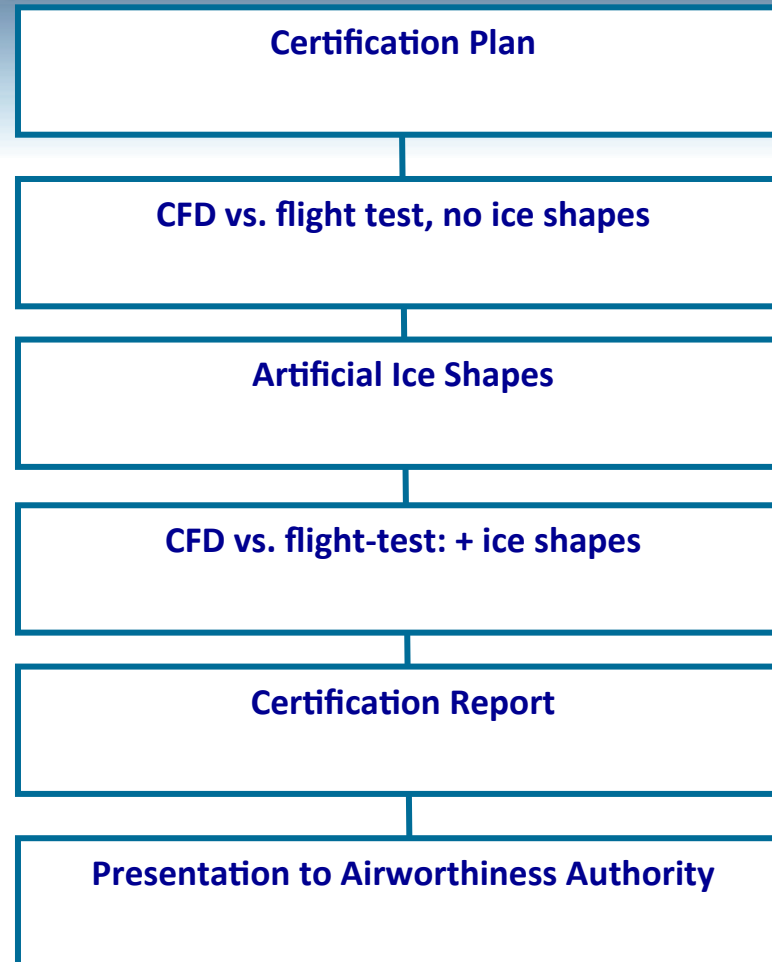
CERTIF-ICE and Associates (www.certifice.com)

- A one-stop-shop for certification
 - DERs, Pilots, Meteorologists, Icing scientists
- Combining the latest analysis tools (ANSYS) and latest advances in certification methodologies (CERTIF-ICE + Dow International)
- To provide an STC in *shortest time*
- In a *most complete* way
- With *particular attention to safety*

CERTIF-ICE provides a “turnkey” solution

- Assist in preparation of Certification Plan, Compliance Check List and Test Plan (CERTIF-ICE and Dow International: DI)
- Predict 3D ice shapes (ANSYS-Enginsoft)
- Manufacture these ice shapes (DI)
- Assist in installation of ice shapes (DI)
- Assist in flight test and data reduction (CERTIF-ICE and DI)
- Prepare Compliance Report

STC: the CERTIF-ICE procedure



CERTIF-ICE: DER, Pilot DER and Meteorologists

- CERTIF-ICE DERs and Meteorologists Offer Comprehensive Aid-to-Certification
 - Compliance Plan & Checklist
 - Conditions & Test Matrix
 - Support of Natural Icing Flight Tests (Meteorologist, DER, Pilot DER)
 - Presentation to FAA, EASA, TC, etc.



Supplemental Type Certification, C-26B, 2 CERTIF-ICE Associate DERs involved

3D ice shapes, and airflow, for appendages

CERTIF-ICE, using FENSAP-ICE

CAD (OEM or CERTIF-ICE)

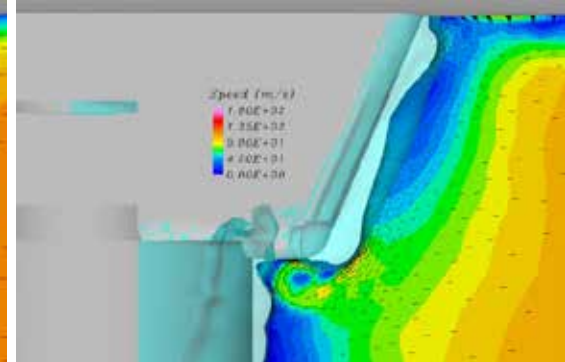
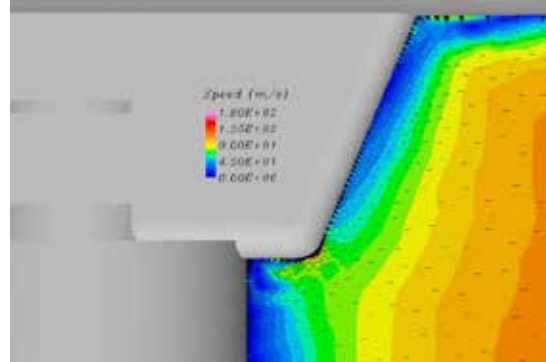
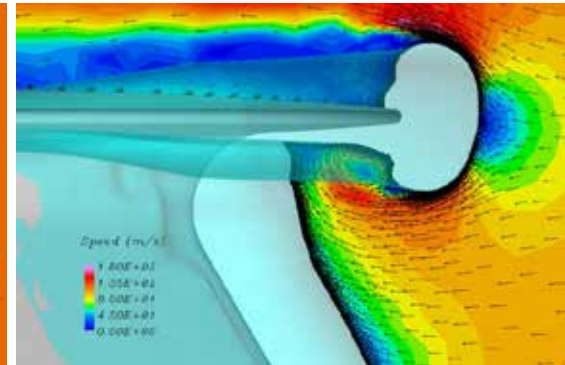
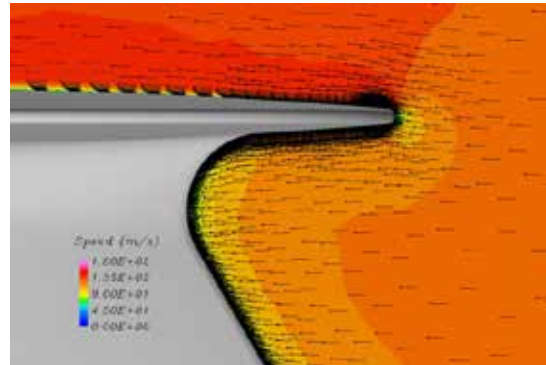
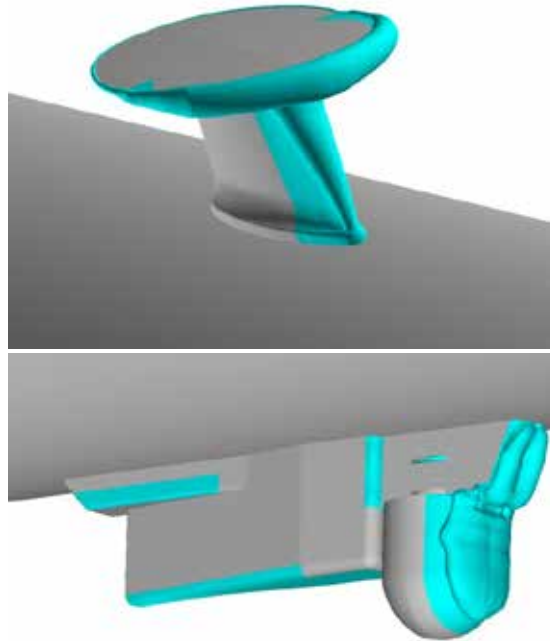
Mesh

Solve

45-min ice shape

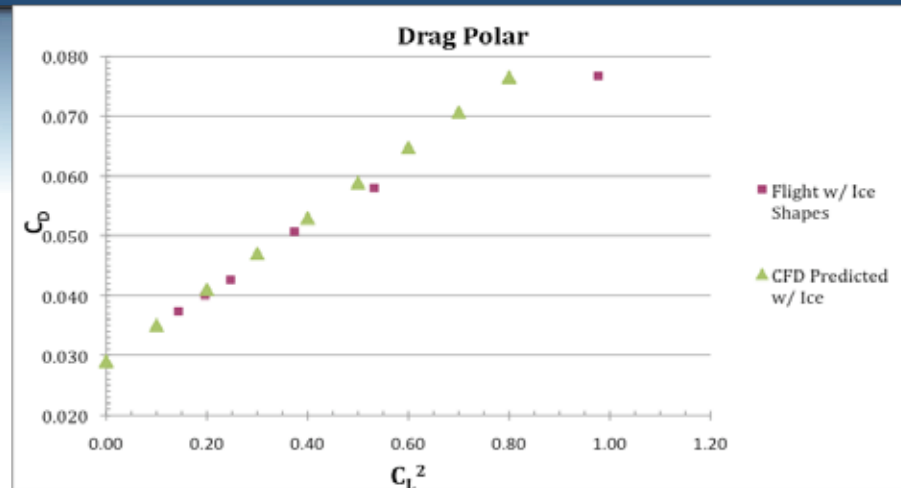
Airflow at $t = 0$ min

Airflow at $t = 45$ min

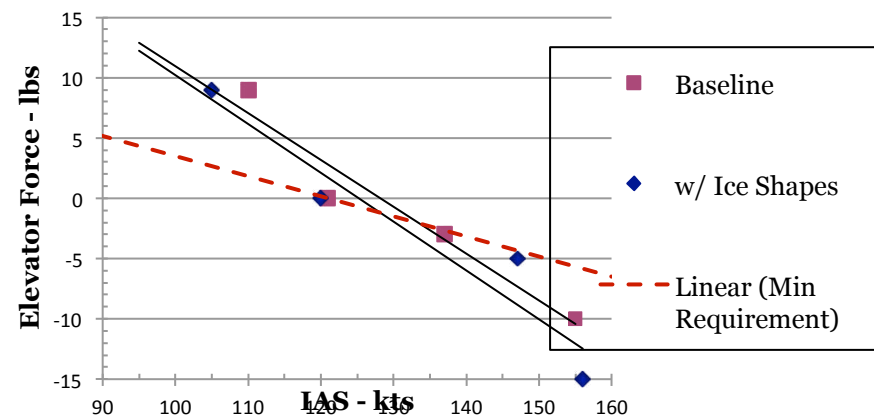


Performance degradation due to icing on appendages

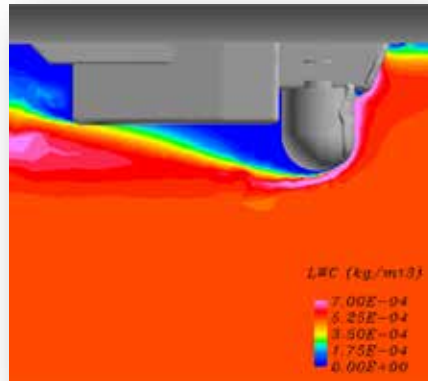
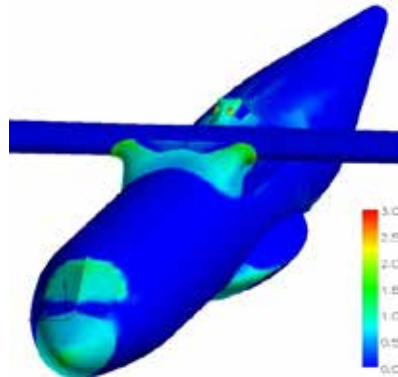
Numerically predicted by CERTIF-ICE, using FENSAP-ICE and comparison to flight measurements



Static Long Stab, Ldg Config



CERTIF-ICE shortens the STC: *no icing tunnel*



What the customer gets

- The fastest STC possible
- The safest STC possible
- Training on the use of the software in actual practice
- The ability to repeat that methodology for future STCs



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Dow International, L.L.C.

Unparalleled turnkey solutions for STC