



EASA

European Aviation Safety Agency

DIFT research results

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DIFT research results

The values presented before are laboratory results...
but conditions/hypothesis have been chosen close to real operations.

- Model size and gap sizes
- Acceleration profiles and elevator deflection laws.
- commercial fluids
- typical temperatures

and many combinations of the variables have been studied.

It could be questioned if more realistic results would be obtain with other hypothesis/assumptions:

fluid application (?)

model geometry (?)

...



Results cannot be directly extrapolated to any particular aircraft type.

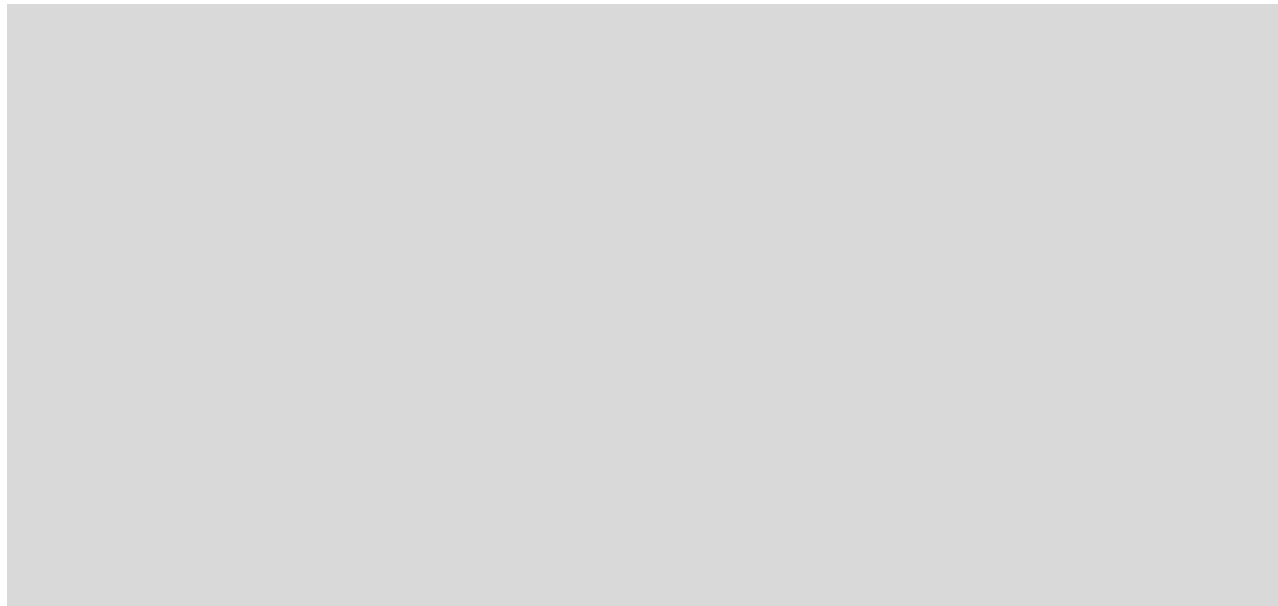
However it seems proven that:

- The phenomena is not only reproduced for a very particular configuration, but for many cases studied (confirmed by pilots' reports)
- The aerodynamic behavior totally differs when comparing a clean case (design case) with a case where the surface is treated with a thickened fluid (type II, IV) .



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Example of pilot applied loads



Note: EASA has deleted the plot corresponding to this slide since no permission was granted for its publication.



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What is the physical explanation for the impact of the fluid on the stabiliser?

The aircraft performance in this scenario is not necessarily assessed or demonstrated to EASA by the TC holders.

The fluids are not assessed for the impact on the rotation.

The same phenomena on other aircraft configuration cannot be dismissed.



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End of “DIFT research results”
Thank you for your attention!

Any questions....?

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