MQXFS7f, main feedback from assembly and cold test

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MQXFS7 training history

Data: Salvador Ferradas Troitino, Franco Mangiarotti
Pole unloading

- From MQXFS7f to MQXFS7g we increased the loading key by 0.1 mm
- Pre-load at cold ≈ 140 MPa
- As expected, increase on pole azimuthal stress of 20 MPa
Average delta pole azimuthal stress

Delta Pole Azimuthal Stress [MPa]

$\frac{l}{l_{ult}} (l_{ult} = 17.5\, \text{kA})$

$\Delta$ Pole azimuthal stress, MPa
Next step

- Increase by 0.1 mm the loading key and test again
Additional slides
MQXFS7e - Magnet at warm, after loading

MQXFS7f - Re-loading with the cooling hole bladders put us back on the new slope!

MQXFS7e - Magnet at warm, back at 927 after cold test.

The predicted “reset” due to cool-down brings the transfer function close to the noPK (quadrant) reference.

For more details see: EDMS 2779912
MQXFS7e - Magnet at warm, after loading

MQXFS7f - Re-loading with the cooling hole bladders put us back on the new slope!

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The predicted “reset” due to cool-down brings the transfer function close to the noPK (quadrant) reference.

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Rods

\[ S7e \]

\[ S7f \]