

## ZZZZ287 – Elementary validation of the operator POST\_RUPTURE

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### Summary:

The purpose of this test is to validate in an elementary way the operator `POST_RUPTURE`. This test does not have any physical meaning, it is primarily a data-processing test.

Various operations are tested:

- standardisation of the curvilinear X-coordinate,
- calculation of the angle of junction,
- calculation of the increment of advanced of fatigue crack with the law of Paris with and without threshold,
- calculation of stress intensity factor are equivalent,
- calculation of  $(\Delta K)_{eq}$  used for the propagation in variable amplitude,
- zero setting of the negative values of the stress intensity factors  $K_1$  and calculation of the new rate of refund G by the formula of Irwin.

This test contains two modelings:

- modeling A considers a crack with a bottom.
- modeling B comprises a crack with two funds.

This documentation is voluntarily brief.