

DATASET FILES GUIDE

The Figures mentioned in this guide refer to the journal article associated with this dataset.

- **Parametric_model.cae**

This file contains the FE model (ABAQUS) used to obtain the numerical results used in the paper. The model is the corrected one, without the centering hole.

- **Fig3 Adhesive characterization.xlsx**

This file contains the data shown on **Figure 3**: the material characterization of the adhesive Araldite 2015-1.

The tab “*Tensile tests*” contains the strain and stress values obtained from the 7 tested specimens. The tab “*TAST (shear tests)*” contains the shear strain and stress values obtained from the 4 tested specimens.

- **Fig10-11 ExpVsFEM.xlsx**

This file contains the data shown on **Figures 10** and **11**: for varying different joint dimensions, the experimental failure loads of the 5 specimens tested (along with the average value and standard deviation used for Figure 11) and the numerical failure loads obtained with the original and corrected FE model.

Each tab is labelled according to the parameter that is being varied (overlap length L_o , inner adherend diameter d_{in} , adhesive thickness t_{adh} , and outer adherend thickness t_{out}).

- **Fig13-16 Damage analysis.xlsx**

This file contains the data shown on **Figures 13** and **16**: the damage and shear stress distributions along the adhesive overlap at different stages of the applied displacement. At the top of each tab are the displacements used as references for the different stages, and the maximum shear stress used to normalize the shear stress distribution values.

Each tab is labelled according to the 2 different cases: overlap length $L_o = 12$ mm or 62 mm. The value of L_o in each case is used to normalize the x-coordinate.

- **Fig14 Lo din.xlsx**

This file contains the data shown on **Figures 14**: the failure load obtained numerically for different values of L_o and d_{in} .

- **Fig15 Load-displacement Lo.xlsx**

This file contains the data shown on **Figures 15**: the load and displacement values obtained numerically for different values of L_o .

- **Fig17-18 Lo tin tout.xlsx**

This file contains the data shown on **Figures 17** and **18**: the failure loads obtained numerically for different values of L_o , t_{in} and t_{out} , and the shear stress distributions along the adhesive overlap for $L_o = 62$ mm and different values of t_{in} and t_{out} .

- **Fig19-20 Lo lin lout.xlsx**

This file contains the data shown on **Figures 19** and **20**: the failure loads obtained numerically for different values of L_o , l_{in} and l_{out} , and the shear stress distributions along the adhesive overlap for $L_o = 62$ mm and different values of t_{in} and t_{out} .