



## Technical Definition

Crack propagation – Aluminium 7175 T7351

### *Instructions to participant laboratories*

Please read carefully these instructions **BEFORE** starting the tests.

1. Five specimen blanks are supplied to each participant – 5 results must be provided. The notch direction will be identified on the blank.
2. The compact tensile test specimen shall be machined in accordance with the requirements of ASTM E647-15 e1.
3. Each participant is required to determine the following parameters of  $da/dN=f(DK)$  curve for  $DK=10\text{MPa}\sqrt{\text{m}}$  to  $Dk=25\text{MPa}\sqrt{\text{m}}$ .

- C
- m

$$da/dN=C(\Delta K)^m \quad (\text{mm / cycles})$$

4. All tests are to be performed in accordance with the requirements of ASTM E647\*.  
Parameters:      Temperature : Room temperature  
                         Ratio: R = 0.1  
                         Frequency: 10 – 20Hz

Material data:      Aluminium 7175 T7351  
                         Yield strength: 462 MPa  
                         Young's modulus: 72 GPa

The tests shall be performed respecting the following conditions:

- One operator only
- One testing machine only
- Tests performed in sequence

5. The following information is to be reported:
  - Specimen dimensions
  - Test method
  - Ambient temperature (°C)
  - Results and graphical details as defined within the test standards
6. Results are to be reported as follows:
  - C – to nearest 4 digits (ex : 1,234E<sup>-5</sup>)
  - m – to nearest 4 digits (ex : 1,234)
7. Testing may commence as soon as test specimens are received. All participant laboratories must supply results by 1<sup>st</sup> May 2017.
8. Instructions for submission of results are detailed on the website:  
<https://ptpscheme.com>
9. To ensure the confidential treatment of your results in the final report, you will be allocated a unique identity number when you register for the program.