



**Kit 11-1 2017 PTP
Metallic**

Technical Definition

Bearing Test on Aluminium and Steel specimens

Instructions to participant laboratories

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

1. Five specimen blanks in 2024 T3 aluminium and five specimen blanks in 15CDV6 Steel are supplied to each participant – 5 results per material must be provided.
2. The specimens shall be machined as indicated below :

Aluminium specimen	Steel specimen
Hole diameter d = 6,35 H7	Hole diameter d = 10 H7
Width w = 38 mm	Width w = 70 mm
Edge distance e = 12,7 mm	Edge distance e = 20 mm
Length L = 150 mm	Length L = 200 mm
Thickness a = 2 mm	Thickness a = 3 mm

Important: Special care shall be taken on residual stress. Plate bending or surface overheating shall be avoided. It is recommended to reduce half of the blanks thickness from each face.

3. Each participant is required to determine the following parameters:
 - Bearing max load
 - Bearing load at 2% strain
 - Bearing yield strength
 - Bearing strength
4. All tests are to be performed in accordance with the methods of ASTM E238-12.

Temperature: Room Temperature - Ambient

Test rate: 0.05 bearing strain / min

The tests shall be performed respecting the following conditions:

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



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5. The following information is to be reported:
 - Specimen thickness (mm)
 - Hole diameter (mm)
 - Edge distance e (mm)
 - Pin diameter (mm)
 - Control mode and rate used
 - Ambient temperature (°C)
 - The results for the parameters detailed in section 3

6. Results are to be reported as follows:
 - Bearing max load (N) – to the nearest 10 N
 - Bearing load at 2% strain (N) - to the nearest 10 N
 - Bearing yield strength – to the nearest MPa
 - Bearing strength – to the nearest MPa

7. Testing may commence as soon as test specimens are received. All participant laboratories must supply results by 1st 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.