Technical Definition

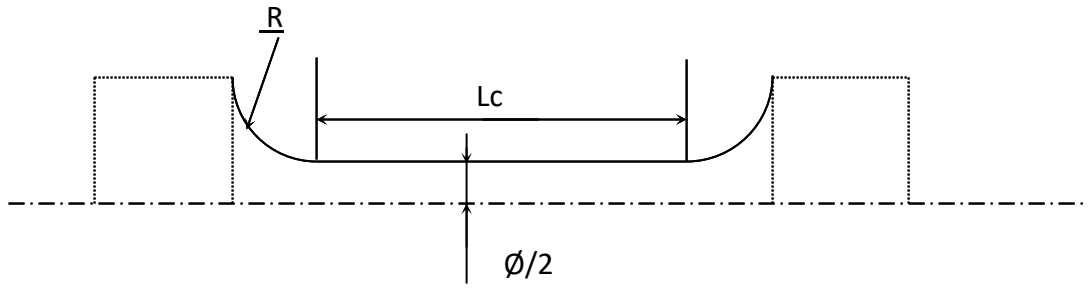
Stress Rupture Test – Nimonic 75

You shall respect the HSE policy of your laboratory for each performed test.

Please read these instructions carefully BEFORE starting the tests.

1. Five blanks (Ø16 x 75 mm) are supplied to each participant – 5 results must be provided.
   If one result is missing your test will be considered as an outlier. An RCA shall be completed.

2. The specimens shall be machined as shown below:



	SI unit (mm)			Imperial unit (inch)		
	Diam (Ø)	**Lc**	**R**	**Diam (Ø)**	**Lc**	**R**
Tolerance	± 0.10	min	min	± 0.005	min	min
Dimension	4.00	24.00	4.00	0.16	1.00	0.16

It is permitted to use a rigid specimen for ease of identification of the gauge length

3. All tests are to be performed at a temperature of **670°C (1238°F)** and a stress of **160 MPa**, in accordance with the requirements of **ASTM E139-11 (2018)**, **EN 2002-005 (2008)** or **ISO 204:2018**. The test is to continue until the specimen ruptures.
   Soaking time shall be between **1 and 3 hours**.

   The tests shall be performed respecting the following conditions:

   - One operator only

   - One testing machine only

   - Tests performed in sequence

4. The following information is to be reported:

Characteristic	**Unit**	**Significant digits**	**Mandatory / Not mandatory**	**Evaluated** Yes/no
Soaking Time	hours	X,X	Mandatory	No
Maximum and minimum temperatures during the test	°C	XXX,X	Mandatory	No
Details of any temperature deviations outside of the tolerance of the standard, before and during the test	N/A	N/A	Not mandatory if not necessary	No
Type and number of thermocouples used	N/A	N/A	Mandatory	No
Specimen diameter before and after testing	mm	X,XX	Mandatory	No
Elongation measurement method	N/A	N/A	Mandatory	No
End-fitting sample method	N/A	N/A	If applicable	No
Gauge length before and after testing	mm	XX,XX	Mandatory	No
Time to rupture	hours	XX,X	Mandatory	**Yes**
Elongation 4D (A4D)	%	XX,X	At least one result has to be provided	**Yes**
Elongation 5D (A5D)	%	XX,X		**Yes**
Reduction of Area	%	XX,X	Mandatory	**Yes**
Location and description of failure	N/A	N/A	Mandatory	No

All evaluated characteristics will be analysed according to the algorithm A and S (ISO 13528 – 2015) and evaluated using z-score.

5. Testing shall start **as soon as test specimens are received**. Please contact the following e-mail address for any technical or administrative query.

Shipment date from:	**March 2022**
Submission date :	**July 1st, 2022**
Technical and administrative support :	info@ptpscheme.com

6. Instructions for submission of results are detailed on the website:
https://ptpscheme.com

7. 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.

8. Collusion and falsification of your PTP results are totally forbidden. In case of identification or suspicion of collusion or falsification, the laboratory will be excluded from the program and the sponsors will be immediately informed. The sponsors could ask you proofs of your records and analyses, so be sure to conserve data, curves and specimens.

9. The tested specimens do not need to be sent back to the PTP office.

APPENDIX: Instructions for IRR participation

The Internal Round Robin participation (IRR) is **optional** and **independent** from your PTP participation.
Confidentiality: The IRR results and reports are confidential and only accessible by your laboratory. They are not shared with the scheme sponsors or any other accreditation or certification bodies.

The extra samples shall be tested according to the following table:

	Operator 1	**Operator 2**	**Operator 3**	**Operator 4**	**Operator X**
Test machine 1	PTP kit (5 samples)	1 sample	1 sample	1 sample	1 sample
Test machine 2	1 sample				
Test machine 3	1 sample				
Test machine Y	1 sample				

Operator 1 (OP1) is to be the most experienced operator currently conducting tests on a regular basis and shall perform tests on all machines (TM1, TM2, TM3…)
Test Machine 1 (TM 1) is to be the most utilised machine for this test in your laboratory and shall be tested by all operators (OP1, OP2, OP3…)

Example: A laboratory has 2 operators and 3 test machines. They receive a PTP kit and 3 extra specimens.
Operator 1 shall test the PTP kit on TM1, 1 specimen on TM2 and 1 specimen on TM3.
Operator 2 shall test 1 specimen on TM1.

The IRR results have to be submitted on a separate results form available on the PTP website.
The identification of operators and test machines you provide will appear on the IRR final report. These identifications will not be seen by other laboratories.

The IRR results will be classified against the acceptance classes of the kit 3-2-2022.

Reminder: Laboratories are not permitted to switch specimens between the PTP kit and IRR samples. The traceability of the samples will be checked during the evaluation. Laboratories found to have switched samples will invalidate their PTP participation.

REVISION HISTORY

Issue Date	Issue N°	Changes
13/12/2021	1	Document creation