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| Revision No. 2  | Page 1 of 3 | <b>Technical Definition</b><br><br>G1c test<br>Carbon Fiber Composite |
|  |             |   |
| <b>Kit G1c PTP 2020</b>   |             |   |

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

***Instructions to participant laboratories***

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

1. Five specimens (250 x 25 x 3,0 mm) are supplied to each participant – 5 results must be provided.  
If one result is missing, your test will be considered as an outlier. A RCA shall be completed.
2. The specimens have to be dried during 48 hours (0/+10) at 70°C (+/- 3), kept in controlled conditions and tested within the next 8 hours after the drying.
3. Prerequisite for starting the tests are:
  - an Airbus qualification for this test
  - For laboratories which are not qualified yet, the rules of Technical Qualification of Mechanical Test Methods apply. The PTP kit may be used for the required comparison tests.
4. All tests have to be performed at room temperature in accordance with the requirements of **AITM 1-0005, issue 04**. The conformity of the specimens to the requirements of AITM 1-0005, issue 04 shall be verified before testing.

The plausibility check is not required.

The tests shall be performed respecting the following conditions:

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

5. The following information need to be reported:

| Characteristic                     | Unit             | Significant digits | Mandatory / Not mandatory | Evaluated Yes/no |
|------------------------------------|------------------|--------------------|---------------------------|------------------|
| Specimen width                     | mm               | X,XX               | Mandatory                 | No               |
| G1c – Fracture toughness energy    | J/m <sup>2</sup> | XXX,X              | Mandatory                 | <b>Yes</b>       |
| A <sub>i</sub> – Pre-crack length  | mm               | XX,X               | Mandatory                 | No               |
| A – Crack length                   | mm               | XX,X               | Mandatory                 | No               |
| Failure mode description           | N/A              | N/A                | Mandatory                 | No               |
| Validity of the tests              | N/A              | N/A                | Mandatory                 | No               |
| Upload of the official test report | 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.

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Carbon Fiber Composite


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

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| <b>Submission date :</b>                      | <b>August 1<sup>st</sup>, 2020</b>                         |
| <b>Technical and administrative support :</b> | <a href="mailto:info@ptpscheme.com">info@ptpscheme.com</a> |

7. Instructions for submission of results are detailed on the website:

<https://ptpscheme.com/>

8. 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.
9. 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.
10. The tested specimens do not need to be sent back to PTP.

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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 |
|-----------------------|---------------------|------------|------------|------------|------------|
| <b>Test machine 1</b> | PTP kit (5 samples) | 3 samples  | 3 samples  | 3 samples  | 3 samples  |
| <b>Test machine 2</b> | 3 samples           |            |            |            |            |
| <b>Test machine 3</b> | 3 samples           |            |            |            |            |
| <b>Test machine Y</b> | 3 samples           |            |            |            |            |

**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 9 extra specimens.

Operator 1 shall test the PTP kit on TM1, 3 specimens on TM2 and 3 specimens on TM3.

Operator 2 shall test 3 specimens 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 G1c-2020.

**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   |
|------------|----------|---|
| 05/03/2020 | 1        | Document creation                               |
| 12/05/2020 | 2        | Modification of the results submission deadline |