

Version No. 3	Page 1 of 4	<div>Technical Definition</div> <div>Differential Scanning Calorimetry</div> <div>Carbon Fiber Composite</div>
<div>ptp.</div>		
<div>Kit 37-1-2023</div> <div>DSC</div>		

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

### **Instructions to participant laboratories**

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

1. One specimen (20 x 10 x 2,0 mm) is 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. All tests must be performed at room temperature in accordance with the requirements of **EN ISO 11357 (2020), AITM 3-0008 issue 1**.

Even if material provided is cured, this kit covers **AITM 3-0002** for uncured material.

The tests shall be performed respecting the following conditions:

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

#### Additional information:

- Heating temperature: **10°C/min**, from ambient temperature to 310°C.
- For  $\Delta H_{100}$  calculation:
  - Resin content is 34 %
- It is forbidden to perform the test from a powder.

4. The following information need to be reported:

Characteristic	Unit	Significant digits	Mandatory / Not mandatory	Evaluated Yes/no
<b>Tg</b> determination method (modulated or not modulated)	N/A	N/A	Mandatory	No
Specimen mass	mg	XX,X	Mandatory	No
Reaction enthalpy $\Delta H$	J/g	XX,X	Mandatory	No
Reaction enthalpy corrected to 100 % resin content : $\Delta H_{100}$	J/g	XX,X	Mandatory	<b>Yes</b>
<b>Temperature Onset</b> of the reaction	°C	XXX,X	Mandatory	<b>Yes</b>
<b>Temperature Peak</b> on the cured specimens as defined on the EN ISO 11357	°C	XXX,X	Mandatory	<b>Yes</b>
Glass Transition Temperature <b>Tg</b> (use mid-point method as described in AITM 3-0002)	°C	XXX,X	If detected	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 – 2022) and evaluated using z-score.

Version No. 3	Page 2 of 4	<div>Technical Definition</div> <div>Differential Scanning Calorimetry</div> <div>Carbon Fiber Composite</div>
<div>ptp.</div>		
<div>Kit 37-1-2023</div> <div>DSC</div>		

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

<b>Submission date:</b>	<b>1<sup>st</sup> July, 2023</b>
<b>Technical and administrative support:</b>	<a href="mailto:info@ptpscheme.com">info@ptpscheme.com</a>

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

<https://ptpscheme.com/>

6. 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.
7. 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.
8. The tested specimen does not need to be sent back to PTP.

Version No. 3	Page 3 of 4	<div>Technical Definition</div> <div>Differential Scanning Calorimetry</div> <div>Carbon Fiber Composite</div>
<div>ptp.</div>		
<div>Kit 37-1-2023</div> <div>DSC</div>		

#### 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 (1 sample)	1 sample	1 sample	1 sample	1 sample
<b>Test machine 2</b>	1 sample				
<b>Test machine 3</b>	1 sample				
<b>Test machine Y</b>	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** (TM1) 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 DSC-2023.

**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.**

#### VERSION HISTORY

Issue Date	Issue N°	Changes
21/12/2022	1	Document creation
27/03/2023	2	Addition of AIM 3-0002
28/04/2023	3	Modification of the submission date

Version No. 3	Page 4 of 4	<div>Technical Definition</div> <div>Differential Scanning Calorimetry</div> <div>Carbon Fiber Composite</div>
<div>ptp.</div>		
<div>Kit 37-1-2023</div> <div>DSC</div>		