

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Sandwich Adhesives**with type designation(s)
Crestomer 1152PA and Crestomer Advantage 30

Issued to

Scott Bader UK Limited
Wellingborough, Northamptonshire, United Kingdom

is found to comply with

DNV GL class programme DNVGL-CP-0085 – Type approval – Sandwich adhesives**DNV GL rules for classification – High speed and light craft****DNV GL standard DNVGL-ST-0342 – Craft****Det Norske Veritas' Standards for Certification No. 2.20, Lifeboats and Rescue Boats, 2007****Application :****Grade 1 sandwich adhesive for use in marine vessels according to stated Rules/Standards.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Høvik** on **2019-07-03**This Certificate is valid until **2024-07-02**.for **DNV GL**DNV GL local station: **Manchester**Approval Engineer: **Gisle Hersvik****Rikard Törnqvist**
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Crestomer 1152PA and **Crestomer Advantage 30**; Adhesives for sandwich construction.

- *Crestomer 1152PA*; pre-accelerated, thixotropic - based on an unsaturated urethane acrylate in styrene monomer.
- *Crestomer Advantage 30*; based on an unsaturated urethane acrylate in styrene monomer.

The following minimum values have been given by the manufacturer:

Property	Test Method	1152PA	Advantage 10 ¹⁾		
Tensile strength, +23°C	ASTM C297	5.3	-	MPa	min.
Tensile strength, +50°C	ASTM C297	3.9	-	MPa	min.
Tensile strength, -10°C	ISO 527	34.9	30.3	MPa	min.
Tensile strength, 0°C	ISO 527	24.9	23.1	MPa	min.
Tensile strength, +23°C	ISO 527	20.7	13.6	MPa	min.
Tensile strength, +50°C	ISO 527	21.2	8.6	MPa	min.
Fracture elongation, -10°C	ISO 527	3.2	4.0	%	min.
Fracture elongation, 0°C	ISO 527	31.4	79.7	%	min.
Fracture elongation, +23°C	ISO 527	110	85.8	%	min.
Fracture elongation, +50°C	ISO 527	123.5	87.9	%	min.

¹⁾ This certificate covers Crestomer Advantage 30, a variant of Crestomer Advantage 10.

Application/Limitation

Area of application will be evaluated during approval of classified objects.

Any significant changes in design and / or quality of the material will render the approval invalid.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

Marking of product

Product/package shall be marked with *manufacturer's name*; **Scott Bader UK Limited** and *type designation*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after 2 and 3.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- Ensure that **Type Approval documentation** is available.



Job Id: **262.1-010328-3**
Certificate No: **TAK00001RM**

- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GL Type Approval Certificate.

END OF CERTIFICATE