

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Sandwich Adhesives**with type designation(s)
Crestomer 1196PA

Issued to

Scott Bader UK Limited
Wellingborough Northamptonshire, United Kingdom

is found to comply with

DNV GL rules for classification – Ships**DNV GL rules for classification – High speed and light craft****DNV GL class programme DNVGL-CP-0085 – Type approval – Sandwich adhesives****Application :****For use in marine vessels according to stated Rules/Standards. Area of application will be evaluated during approval of classified objects.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2018-02-12**This Certificate is valid until **2022-12-31**.for **DNV GL**DNV GL local station: **Sheffield**Approval Engineer: **Joachim Rehbein**

Thorsten Lohmann
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 1196PA; Gap-filling core adhesive for sandwich construction - based on an unsaturated urethane acrylate resin dissolved in monomeric styrene.

The following values have been given by the manufacturer based on type testing:

Property	Test Method	1196PA		
Tensile strength, +23°C	ASTM C297	1.71	MPa	msmv
Tensile strength, +55°C	ASTM C297	1.64	MPa	msmv
Tensile strength, -10°C	ISO 527	17.2	MPa	msmv
Tensile strength, 0°C	ISO 527	19.11	MPa	msmv
Tensile strength, +23°C	ISO 527	16.88	MPa	msmv
Tensile strength, +55°C	ISO 527	7.01	MPa	msmv
Fracture elongation, -10°C	ISO 527	1.17	%	msmv
Fracture elongation, 0°C	ISO 527	1.64	%	msmv
Fracture elongation, +23°C	ISO 527	3.16	%	msmv
Fracture elongation, +55°C	ISO 527	14.84	%	msmv
Shear strength, +23°C	ISO 1922	0.79	MPa	msmv
Water resistance, +23°C	ASTM C297	>80	%	msmv
Heat Resistance Temperature	-	55	°C	-

Remarks:

Fracture elongation at -10°C is less than requirements of 2.0%.

Fracture elongation at +23°C is less than requirements of 3.5%.

Production site

Scott Bader UK Limited
Wollaston, Wellingborough
Northamptonshire
NN29 7RL
United Kingdom

Application/Limitation

Area of application will be evaluated during approval of classified objects observing the fracture elongation figures.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation** and DNV Type Approval Programme No. 1-501.11 Sandwich Adhesives (2009).

Marking of product

Product/package shall be marked with *manufacturer's name*; **Scott Bader UK Limited** and *type designation*; **CRESTOMER 1196PA**.

Certificate Retention/Renewal Assessment



Job Id: **262.1-015373-2**
Certificate No: **TAK000013Y**

The scope of the Retention/Renewal 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.

An assessment has to be performed twice within the validity (Certificate Retention assessment) and at renewal after five (5) years (Certificate Renewal assessment).

The main elements of the assesment are:

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

END OF CERTIFICATE