



CERTIFICATE NUMBER 18-HG1716803-PDA
EFFECTIVE DATE 8 Mar 2018
EXPIRATION DATE 7 Mar 2023
ABS TECHNICAL OFFICE Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

HENKEL AG & CO. KGAA

located at

HENKELSTRASSE 67, D-40191 DUESSELDORF, Germany

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product Polyurethane Adhesive

Model Loctite UK 8202 / Loctite UK 5400

This Product Design Assessment (PDA) Certificate remains valid until expiration date or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping

Dimitrios Nikolakis
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

HENKEL AG & CO. KGAA

HENKELSTRASSE 67

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Germany

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Email:

Web: www.henkel.com

Tier: 3 - Type Approved, unit certification not required

Product: Polyurethane Adhesive

Model: Loctite UK 8202 / Loctite UK 5400

Intended Service:

The polyurethane adhesive is to be used in the fabrication of the insulating panels in containment system of LNG carriers built according to membrane technology. This adhesive will be mainly used to bond birch plywood (PW) to reinforced polyurethane foam (RPUF) and RPUF to rigid secondary barrier (RSB).

Description:

LOCTITE UK 8202 / LOCTITE UK 5400 is a solvent-free two-component adhesive, based on polyurethane. The resin part (component A) contains organic compounds with hydroxyl groups, the hardener (component B) is based on isocyanates. By mixing both components in a mix ratio of 4 : 1 a hard elastic product is formed through chemical reaction. After curing the product exhibits no measurable change in volume. As natural raw materials (from different cultivation areas) are used a variation in color between different batches is possible.

Rating:

To be as per the manufacturers specifications, and GTT Gaztransport & Technigaz Report MAT-RPT-001648 Rev.02 of 21/09/2016.

Service Restriction:

Unit certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

- The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- Our approval is based on that the above material has been certified by Gaztransport & Technigaz (GTT), Approval Report: MAT-RPT-001648, Rev. 02 dated 21.09.2016
- Unless specially directed by Administration, this approval is not to be construed as a substitute for Flag Administration's approval for the purpose of SOLAS (Consolidated Edition 2014), as amended.
- This certificate may not be used for EU and US flagged vessels (if MED and/or USCG have their own specific/requirements).
- The manufacturer is responsible for identifying all containers in the batch with some form of permanent marking.

Notes/Drawing/Documentation:

Drawing No. LOCTITE UK 8202_LOCTITE UK 5400-EN, LOCTITE UK 8202_LOCTITE UK 5400-EN, Revision: -, Pages: -

Drawing No. MAT-RPT-001648_M3005rev2TestReport_GTT_21Sep2016, TestReport_GTT_21Sep2016, Revision: -, Pages: -

Drawing No. PDA Revalidation Request Form filled, PDA Revalidation Request Form filled, Revision: -, Pages: -

Terms of Validity:

This Product Design Assessment (PDA) Certificate 18-HG1716803-PDA, dated 08/Mar/2018 remains valid until 07/Mar/2023 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

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Tier: 3 - Type Approved, unit certification not required

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

- Steel Vessel Rules Edition 2018 1-1-4/7.7, 1-1 App. 3 & 4, 4-1-1/7.15.
- Mobile Offshore Drilling Unit Rules Edition 2018 1-1-4/9.7, App. 2 & 3.
- Steel Vessels Under 90 Meters in Length Edition 2018 1-1-4/7.7, 1-1-App. 3 & 4.
- Facilities on Offshore Installations Edition 2018 1-1-4/9.7, 1-1-App. 2 & 3.
- Offshore Support Vessels Edition 2018 1-1-4/7.7, 1-1-App. 3 & 4.
- Steel Vessels for Service on Rivers and Intracoastal Waterways Edition 2018 1-1-4/7.7, 1-1-App. 3 & 4.
- Bulk Carriers for Service on the Great Lakes Edition 2017 1-1-4/7.7, 1-1-App. 3 & 4.

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

GTT (Gaztransport & Technigaz) Specification No. M3005. revision 2