TYPE APPROVAL

Certificate No.: TA-DNVGL-CP-0086-07627-0

Issued: 2021-05-25

Valid until: 2026-05-24

Issued for:

Epoxy adhesive system

with type designation(s)

SPABOND 840HTA

Issued to:

Gurit (UK) Ltd.

St Cross Business Park, Newport, Isle of Wight, PO30 5WU, United Kingdom

According to:

DNVGL-SE-0436:2018-04 Shop approval in renewable energy

and

DNVGL-CP-0086:2016-03 Type approval – Adhesive systems Applying:

DNVGL-SE-0441:2016-06 Type and component certification of wind turbines

Based on the documents listed in Annex 1.

This Type Approval consists of this page and Annex 1 which is integral part of the approval.

Any significant change in design and / or quality of the material will render this Type Approval invalid.

Hellerup,2021-05-25

Hamburg, 2021-05-25

For DNV GL Renewables Certification Bente Vestergaard Service Line Leader For DNV GL Renewables Certification Peter Schmidt Principal Project Manager

TYPE APPROVAL - ANNEX 1

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Product description and application

Two component epoxy adhesive system for bonding in wind industry and maritime applications.

Approved variants

SPABOND 840 Resin with SPABOND 840HTA Hardener

Type Approval documentation

Technical data sheet(s): SPABOND 840HTA FAST CURING STRUCTURAL EPOXY ADHESIVE, issued by

Gurit, dated 2020-10-20

Safety data sheet(s): Spabond 840 Resin, issued by Gurit, dated 2018-05-25

Spabond 840HTA Hardener, issued by Gurit, dated 2020-02-12

Test report(s): DNVGL CERTIFICATION OF SP840 HTA ADHESIVE MANUFACTURED IN GURIT

NEWPORT, 12105 rev. 2.0, issued by Gurit, dated 2020-10-20

Inspection report(s): DNVGL Approval of Manufacturer certificate with no. AMPM0000023 with validity

until 2021-02-28, currently under renewal assessment

Quality control QUALITY MANAGEMENT SYSTEM - ISO 9001:2015, FM 12919, issued by BSI,

documentation: dated 2018-12-07

Several CoAs

Liquid Components

Material Properties	Test Method	SPABOND 840 Resin	SPABOND 840HTA Hardener	Unit
Viscosity at 25 °C	ISO 2884	24	10	Pa∙s
Density at 21 °C	ISO1183-1	1.19	1.17	g/cm³

Cured Composite

Material Properties	Test method	Value	Unit
Glass Transition Temperature	ISO 6721 (DMA)	71.3	°C
Tensile Strength	ISO 527-2	48.8	MPa
Tensile Modulus	ISO 527-2	3.27	GPa
Flexural Strength	ISO 178	90.3	MPa
Flexural Modulus	ISO 178	3.02	GPa

Approved Production Sites

Gurit (UK) Ltd. St. Cross Business Park Newport PO30 5WU United Kingdom

Production Site holds Approval of Manufacturer AMPM0000023.

DNV-GL

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Periodical assessment

2.5 years after the last workshop inspection, the client shall inform DNV GL about any modifications in production. An intermediate inspection might be needed based on the implemented changes.

For renewal, an inspection 5 years after the last workshop inspection is due.

A production side with a valid Approval of Manufacturer certificate for material in question is exempted from the obligation concerning retention and renewal assessments.