



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Hilti Corporation
Address	Feldkircherstrasse 100, 9494 Schaan, Liechtenstein
Type	Mechanical Fastening System
Description	Multipurpose Fastening, Grating Fastening, Electrical Connections and Composite fastening
Trade Name	Hilti S-BT HL mechanical fastening system, comprising Hilti drilling tool & drill bit & setting tool & depth gauge.
Application	Fastenings in Marine, Offshore and Industrial environments.
Specified Standard	Hilti S-BT HL screw-in threaded studs are intended to be used for redundant multiple fastening and group fastening of non-structural components as following standards Hilti Product Data Sheet- S-BT HL screw-in stainless- and carbon steel threaded studs, (Edition 12/2022) Hilti Product Data Sheet – S-BT-ER (HC) HL /-EF (HC) HL screw-in threaded studs for electrical connections, (Edition 12/2022) Hilti Product Data Sheet – X-FCM Grating Fastening System (Edition 06/2023) ETA Denmark, European Technical Assessment ETA-23/0001 EOTA, European Assessment Document EAD 333037-00-0602: Threaded studs for connection of materials to structural steel and aluminum members University Stuttgart, Evaluation Report 2022-55X: Hilti screw-in threaded stud S-BT HL

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Ratings	Multipurpose Fastening; S-BT-MR/MF Grating Fastening; S-BT-GR/GF Electrical Connections; S-BT-ER/EF Composit Fastener; X-FCM/X-FCS-R Size and detailed type will be attached in appendix.
Additional Tests	NA
Other Conditions	<p>The minimum strength of the base material must be as stated in the Hilti S-BT HL Threaded Fastener Specification.</p> <p>The end user must ensure that the base and fastened materials possess adequate corrosion resistance for the environments in which they are to be used.</p> <p>For use on LR Classed ships, the locations and systems for which they are to be used are to be to the satisfaction of the attending surveyor.</p> <p>Fatigue Classification in accordance with EN 1993-1-9:2005 – Eurocode 3: Design of steel structures, equivalent to category 100 m = 5.</p>

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: New

The Design Appraisal Document LR23161857TA DAD and UKITSO/49964879/ENG and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No LR23161857TA.

Appendix

1. Details of Products

Designations		Multipurpose Fastening	Grating Fastening
Size -R; Stainless steel _F; Carbon Steel		S-BT-MR M10/15 SN 6 HL S-BT-MR M10/15 SN 6 HL AL S-BT-MR W10/15 SN 6 HL S-BT-MR W10/15 SN 6 HL AL S-BT-MF M10/15 AN 6 HL S-BT-MF W10/15 AN 6 HL S-BT-MF MT M10/15 AN 6 HL S-BT-MF MT W10/15 AN 6 HL S-BT-MR M8/15 SN 6 HL S-BT-MR M8/15 SN 6 HL AL S-BT-MR M8/7 SN 6 HL S-BT-MR M8/7 SN 6 HL AL S-BT-MF M8/15 AN 6 HL S-BT-MF M8/7AN 6 HL	S-BT-GR M8/7 SN6 HL S-BT-GR M8/7 SN 6 HL AL S-BT-GF M8/7 AN6 HL
Designations		Electrical Connections	Composite fastener
Size		S-BT-ER M10/15 SN 6 HL S-BT-ER W10/15 SN 6 HL S-BT-ER M8/15 SN 6 HL S-BT-EF M10/15 AN 6 HL S-BT-EF W10/15 AN 6 HL S-BT-EF M8/15 AN 6 HL S-BT-ER M10 HC 120 HL S-BT-ER W10 HC 4/0 HL S-BT-EF M10 HC 120 HL S-BT-EF W10 HC 4/0 HL	X-FCM X-FCM-F (L) X-FCM-R (L) X-FCM-F NG X-FCM-R NG X-FCM-F HL X-FCM-R HL X-FCS-R
Material	Shank & thread	Stainless Steel S31803 (1.4462) acc EN 10088-1, Zinc coated. Carbon steel 1038 Duplex -Coated	
	Sealing washer	Stainless Steel S31635 (1.4404) acc EN 10088-1 with sealing ring Aluminium with sealing ring	
	Nut for S-BT-MR/MF HL & S-BT-ER/EF HL	SSA4/AISI 316 Carbon Steel HDG	
	Lock & Washer for S-BT-ER/EF HL	SSA4/AISI 316 Carbon Steel HDG	
	Conductive Disc for S-BT-ER/EF HL	Copper alloy CuSn8 (tin coated) with seal ring	

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