



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 Aktiengesellschaft						
Address	Feldkircherstrasse 100, Schaan, 9494, Liechtenstein						
Type	Building Construction Elements						
Description	Hilti DX Direct Mechanical Fastening System, comprising Hilti X-CR fastenings produced using the Hilti DX process.						
Trade Name	General purpose nails: X-CR, X-R. Threaded stud connections: X-CRM8, X-ST-GR M8. Composite fasteners: X-FCM-R and X-FCP-R.						
Application	For use in fastening carbon steel, stainless steel or aluminium base components in marine, offshore or industrial environments as per Hilti Product Information.						
Specified Standard	Hilti Direct Fastening Technology Manual, Product Information.						
Other Conditions	<p>This Type Approval certificate should be read in conjunction with LR technical Report no. 2003/CSG/TI/6331.</p> <p>Unless otherwise stated in the Hilti Direct Fastening Technology Manual, the tensile strength of the fastened and base material should be not less than:</p> <table><tr><td>Carbon steel</td><td>360 N/mm²</td></tr><tr><td>Stainless steel</td><td>360 N/mm²</td></tr><tr><td>Aluminium</td><td>200 N/mm²</td></tr></table>	Carbon steel	360 N/mm ²	Stainless steel	360 N/mm ²	Aluminium	200 N/mm ²
Carbon steel	360 N/mm ²						
Stainless steel	360 N/mm ²						
Aluminium	200 N/mm ²						

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Type Approval Certificate

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.

For use on LR Classed ships, the locations and systems for which they are to be used are to be subject to a ship specific agreement

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.

The Design Appraisal Document and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Type Approval Certificate Extension

This is to certify that Certificate No. 97/ 00078(E3) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Hilti Corporation
PLACE OF PRODUCTION	Feldkircherstrasse 100 9494 Schaan Liechtenstein
DESCRIPTION	Hilti DX Direct Mechanical Fastening System, comprising Hilti X-CR fastenings produced using the Hilti DX process
TYPE	X-CR Stainless Steel threaded studs and nails identified with an 'Hi' marking (High corrosion resistant element) General purpose nails: X-CR, X-R Threaded stud connections: X-CRM8, X-ST-GR M8 Composite fasteners: X-FCM-R and X-FCP-R
APPLICATION	For use in fastening carbon steel, stainless steel or aluminium base components in marine, offshore or industrial environments as per Hilti Product Information.
DESIGN CODE	Hilti Direct Fastening Technology Manual, Product Information.

Certificate No.	97/ 00078(E4)
Issue Date	25 January 2019
Expiry Date	24 January 2024
Sheet	1 of 2



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CONDITIONS OF APPROVAL

This Type Approval certificate should be read in conjunction with LR technical Report no. 2003/ CSG/ TI/ 6331.

Unless otherwise stated in the Hilti Direct Fastening Technology Manual, the tensile strength of the fastened and base material should be not less than:

Carbon steel	360 N/ mm ²
Stainless steel	360 N/ mm ²
Aluminium	200 N/ mm ²

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.

For use on LR Classed ships, the locations and systems for which they are to be used are to be subject to a ship specific agreement

"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."

The attached Design Appraisal Document No. 97/00078(E4) and its supplementary Type Approval Terms and Conditions form part of this Certificate

All other details remain as the previous Certificate No. 97/ 00078(E3) to which this extension should be attached.

Certificate No. 97/ 00078(E4)
Issue Date 25 January 2019
Expiry Date 24 January 2024
Sheet 2 of 2



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