



Confirmation of Product Type Approval

Company Name: HILTI AKTIENGESELLSCHAFT

Address: FELDKIRCHERSTR. 100 9494 SCHAAN Liechtenstein

Product: Fastening System

Model(s): Grating fasteners Hilti X-FCM-R, X-FCM-R L, X-FCM-R HL, X-FCM-R NG, X-FCM-F, X-FCM-F L, X-FCM-F HL, X-FCM-F NG, X-FCM, Checker plate fasteners Hilti X-FCP-R and X-FCP-F

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	22-2285526-1-PDA	15-SEP-2023	06-SEP-2027
Manufacturing Assessment (MA)	21-4879051	29-JUL-2021	30-AUG-2026
Product Quality Assurance (PQA)	NA	NA	NA

Tier

3 - Type Approved, unit certification not required

Intended Service

For fastening of grating or checker plate in combination with Hilti powder-actuated or screw-in threaded studs in the Marine and Offshore Industry.

Description

Grating fasteners are made from stainless material (X-FCM-R, X-FCM-R L, X-FCM-R HL, X-FCM-R NG), duplex coated carbon steel (X-FCM-F, X-FCM-F L, X-FCM-F HL, X-FCM-F NG) or zinc plated carbon steel (X-FCM). The grating fasteners are recommended to be used in combination with Hilti powder-actuated or screw-in threaded studs:

1. X-FCM-R, X-FCM-R L, X-FCM-F and X-FCM-F L in combination with Hilti X-BT-GR, Hilti X-ST, Hilti S-BT, Hilti S-BT HL fasteners according to PDA-23-2426560-PDA, PDA 21-2146145-PDA, PDA 21-2140400-PDA, or PDA 23-2361769-PDA.
2. X-FCM-R HL in combination with Hilti X-BT-GR M8 fastener according to PDA 23-2426560-1-PDA, Hilti S-BT-GR M8 HL fastener according to PDA 23-2361769-PDA.
3. X-FCM-F HL in combination with Hilti S-BT-GF M8 HL, Hilti S-BT-MF M8 HL fastener according to PDA 23-2361769-PDA.
4. X-FCM in combination with Hilti S-BT-GF M8, S-BT-MF M8 and Hilti S-BT-GF NG M8 fasteners according to PDA 21-2140400-PDA, or with Hilti S-BT-GF M8 HL, Hilti S-BT-MF M8 HL fastener according to PDA 23-2361769-PDA, Hilti X-EM fasteners according to PDA 21-2146146-PDA.
5. Checker plate fasteners are made from stainless material (X-FCP-R) or duplex coated carbon steel (X-FCP-F). The checker plate fasteners in combination with Hilti X-ST powder-actuated threaded studs according to PDA 21-2146145-PDA.

6. X-FCM-R NG in combination with Hilti S-BT-GR NG M8 fastener according to PDA 21-2140400-PDA, or Hilti S-BT-GR M8 HL fastener according to PDA 23-2361769-PDA.

7. X-FCM-F NG in combination with Hilti S-BT-GF NG M8 or Hilti S-BT-GR NG M8 fastener according to PDA 21-2140400-PDA, or Hilti S-BT-GF M8 HL, Hilti S-BT-GR M8 HL, Hilti S-BT-MF M8 HL fastener according to PDA 23-2361769-PDA.

Ratings

For Rating Matrix and Product Test Reports refer to these ABS Type Approval Certificate, and Hilti Direct Fastening Technology Manual for each product.

A) PDA 23-2426560-PDA (X-BT-GR threaded fasteners)

B) PDA 21-2146145-PDA (X-ST threaded studs)

C) PDA 21-2146146-PDA (X-EM threaded studs)

D) PDA 21-2140400-PDA (S-BT threaded fasteners)

E) PDA 23-2361769-PDA (S-BT HL threaded fasteners)

See attachment for Ratings of each PDA

Service Restrictions

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

1. User of these fasteners is to observe the Hilti Direct Fastening Technology Manual for application limitations, conditions and recommended load values.

2. The grating fasteners are used in combination with the Hilti threaded studs covered by:

a) PDA 23-2426560-PDA (X-BT-GR threaded fasteners)

b) PDA 21-2146145-PDA (X-ST threaded studs)

c) PDA 21-2146146-PDA (X-EM threaded studs)

d) PDA 21-2140400-PDA (S-BT threaded fasteners)

e) PDA 23-2361769-PDA (S-BT HL Threaded fasteners)

The checker plate fasteners are used in combination with the Hilti X-ST threaded studs covered by PDA 21-2146145-PDA. Therefore, the service restrictions applicable for the threaded studs as stated in the respective PDAs have to be observed.

3. Recommended Applications and Locations:

a) The securing of grating panels (X-FCM-R, X-FCM-R L, X-FCM-R HL, X-FCM-R NG, X-FCM-F, X-FCM-F L, X-FCM-F HL, X-FCM-F NG, X-FCM)

b) The securing of checker plate (X-FCP-R, X-FCP-F)

Comments

- The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

- ABS approvals are general based on the product test reports furnished by recognized institutions and laboratories which may reflect specific local conditions. If any application is in a jurisdiction where the

fasteners are subject to the approval process or specific guidelines are to be followed, the approved technical data or design guidelines take precedence over technical data presented herein.

Notes, Drawings and Documentation

X-FCP data sheet, Checker plate fastening system, April 2022, Revision: -, Pages: 8

X-FCM data sheet, Grating fastening system, June 2023, Revision: -, Pages: 50

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 06/Sep/2027 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.

ABS Rules

2022 ABS Rules for Conditions of Classification, 1-1-4/7.7, 1-1-A3, 1-1-A4

2022 ABS Rules for Conditions of Classification – Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following

2022 ABS Rules for Building and Classing Mobile Offshore Unit Rules: 3-2-2/9, 4-3-3/5.9

International Standards

NA

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

Manufacturer's Standards



Corporate ABS Programs

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

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 prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.