

# TYPE EXAMINATION CERTIFICATE

**This is to certify:****That the Structural Connecting Elements**

with type designation(s)


**Channel Systems incl. channels, brackets, connectors and accessories: MQ-21, MQ-21D, MQ 21.5, MQ-41, MQ-41-L, Pipe Clamps: MP-MI, MP-MIS, MP-MI-F, MP-MRI, MP-MRXI, MP-MXI, MP-MXI-F**

Issued to

**Hilti AG**  
**Schaan, Liechtenstein**

is found to comply with

**EN 1990:2002 Eurocode: Basis of structural design****EN 1991-1-1:2002 Eurocode 1: Actions on structures – Part 1-1: General actions – Densities, self-weight, imposed loads for buildings****EN 1993-1-1:2005 Eurocode 3: Design of steel structures – Part 1-1: General rules and rules for buildings****EN 1993-1-3:2006 Eurocode 3: Design of steel structures – Part 1-3: General rules – Supplementary rules for cold-formed members and sheeting****EN 1993-1-5:2006 Eurocode 3: Design of steel structures – Part 1-5: Plated structural elements****EN 1993-1-8:2005 Eurocode 3: Design of steel structures – Part 1-8: Design of joints****VdS 2344:2014 Procedure for the testing, approval, certification and conformity assessment of products and systems for fire protection and security technologies****VdS 2100-06:2004 VdS-Guidelines for water extinguishing systems – Pipe joints – Requirements and test methods****RAL-GZ 655 – Pipe Supports – Quality Assurance, April 2008****RAL-GZ 656 – Fire-tested Pipe Supports – Quality Assurance, May 2010****VDE 0100-540:2012-06 Low-voltage electrical installations – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements and protective conductors (IEC 60364-5-54:2011)****VDE 0660-600-1:2012-06 Low-voltage switchgear and controlgear assemblies – Part 1: General rules (IEC 61439-1:2011)****Application :****The HILTI-Channel-System and the HILTI-Pipe-Clamps are type examined for installation on board ships and other structures classed by DNV GL.**



Job Id: **262.1-027595-1**  
Certificate No: **TAS00001FB**

Issued at **Hamburg** on **2018-07-04**

for **DNV GL**

This Certificate is valid until **2023-07-03**.

DNV GL local station: **Augsburg**

Approval Engineer: **Christian Kaemmer**

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**Olaf Drews**  
**Head of Section**

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This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Examination Certificate and not to the approval of equipment/systems installed.

## Product description

**HILTI-Channel System** is made of galvanized steel respectively stainless steel. The channel system contains the installation channel, bracket, connectors and accessories:

### Materials:

Galvanized Steel:	Hot-dip galvanized (HDG / HDG plus):	Stainless Steel (A2 / A4):
S 250 GD – DIN EN 10346	S 235 JR – DIN EN 10025	1.4571 / 1.4404 – EN 10088, AISI 316Ti, AISI 316L
GTW45 – DIN 1692	S 235 JRG2 – DIN EN 10025	1.4301 – EN 10088
DD11 MOD – HN 547	EN-GJMW-450-7 – DIN EN 1562	1.4581 – DIN EN 10283
S 355 J2 – DIN EN 10025-2	C4C – DIN EN 10263	1.4401 – DIN 17440
S 355 MC – DIN EN 10149-2	DD11 – DIN EN 10111	
S 280 GD- DIN EN 10346		

**HILTI-Pipe Clamps** are made of galvanized steel respectively stainless steel with rubber EPDM inlay material. The pipe clamp system contains the pipe clamps and accessories:

### Materials:

Type	MP-MI, MP-MIS and MP-MI-F	MP-MXI, MP-MXI-F	MP-MRI, MP-MRXI
Material	S235JR – DIN EN 10025	DD11 – DIN EN 10111	1.4571/1.4404 (A4) EN 10088, AISI 316Ti / AISI 316L

## Application/Limitation

**Channel System**  
**Pipe Clamps**

intended to be fastened on ceilings, walls, structures.  
 intended to fasten pipes with diameters ≤ DN250

## Type Examination documentation

Bericht im Rahmen der Gütesicherung RAL-GZ 656 No: TD656.2013-04a.01; TD656.2013-04.01; Verleihungsurkunde "Gütezeichen Rohrbefestigung" RAL-GZ 655-B: MP-MXI & MP-MXI-F, MP-MI(S), Rohrschelle MP-MI; Approval of Components and Systems VDS No: G4970048, G4960058; VDE Test Report 744000-3990-0001/114993; Konformitätsbescheinigung LS S 09-901; Zulassung BZS S 17-302; BZS S 17-310; Gutacherliche Stellungnahm 3054/048/12; Expert opinion 2101/612/16; Stellungnahme Schwingungsprüfungen NE 10-228 dated 17-12-2010. Technisches Handbuch der Installationstechnik 5/2018.

## Tests carried out

Shock resistance test, Fire resistance test, Vibration test acc. to GL VI-7-8-2-B 3.1.3, Provide measures against self-loosening of connections, Measurement of the electr. Resistance of the channel system. DNV GL Ref.-No.: 09-117565; 10-009275; 11-133623.

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## Marking of product

For traceability to this type examination the products are to be marked with:

- Manufacturers name or trade mark
- Type designation

## Certificate Retention Survey

For retention of the type examination certificate periodical assessments shall be carried out at production places by DNVGL surveyor.

The objective of the periodical assessment is to verify that the design and production conditions for the type examination have not been altered.

Main scope of the assessment:

- verification of the production and quality control system
- review of quality control documentation of recent deliveries
- review of drawings in production to verify any design changes which may have an impact on data specified in the type approval certificate, performance and range of application
- verification of the product marking

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.