DNV·GL

Certificate No:
TAK000013R

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the Fastening Clamps

with type designation(s)
Heavy Type Pipe Clamps (Heavy Duty (S) block clamps)

Issued to
SANG WOO CLAMP Co., Ltd.
Yangsan-si, Gyeongsangnam-do, Korea

is found to comply with
DIN 3015-2 Fastening clamps – Block clamps – Part 2: Heavy duty (S), January 1999
DIN 3015-10 Fastening clamps – Block clamps – Part 10: Technical delivery conditions, February 1994

Application :

Fastening clamps with and without mounting rails for the fixation of various conduits (e.g. hoses, pipes, cables).

Issued at **Høvik** on **2018-02-14**
This Certificate is valid until **2023-02-13**.
DNV GL local station: **Gimhae Station**

Approval Engineer: **Bjørn Engh**

for **DNV GL**

Rikard Törnqvist
Head of Section

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.

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Product description

Heavy Type Pipe Clamps (Heavy Duty (S) block clamps)

Materials:

Clamp halves:	Polypropylene PP, Polyamide PA, Aluminium Al
Bolts, top-, stack- and base-plate:	Stainless steel

Dimenions:

Ø 6 – 17.3 mm	Series H30
Ø 20 – 30 mm	Series H40
Ø 32 – 45 mm	Series H60
Ø 48.6 – 65 mm	Series H90
Ø 70 – 89.1 mm	Series H120
Ø 101.6 – 114.3 mm	Series H160
Ø 139.8 – 165.2 mm	Series H200
Ø 216.4 – 216.4 mm	Series H260
Ø 267.4 – 318.5 mm	Seriec H390
Ø 355.6 – 406.4 mm	Seriec H530

Temperature ranges:

Polypropylene PP:	-30^0C to $+90^0$C
Polyamide PA:	-40^0C to $+120^0$C
Aluminium Al:	-40^0C to $+300^0$C

Application/Limitation

The selection of the pipe clamps for the corresponding service and installation to be in accordance with the manufacturer's recommendations.

Type Examination documentation

Tests carried out

Type Testing carried out in accordance with **Type Examination documentation**.

KS B 5521:	Mechanical strength of clamps, H30, H60 and H160
ASTM E1251:	Chemical analysis, Aluminum
ASTM D638:	Mechanical testing, PA and PP
ASTM D648:	Heat Deflection Temperature, PA and PP
ISO 527:	Mechanical testing, PA

Marking of product

Product/package shall be marked with *manufacturer's name, place of production* and *type designation*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Examination Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Examination is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after 2 and 3.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- Ensure that **Type Examination documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Examination documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and DNV GL Type Examination Certificate.

END OF CERTIFICATE