

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00001WJ
Revision No:
1

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Materials other than steel for pipes conveying oil or fuel oil: flexible pipe assemblies

with type designation(s)

SP33 series (3SPT, 3SPG), Flexopak 2 / Superslimline 241T/241G, Flexopak 2SC HF (Slimline plus 221T/221G), 1SN Temp-tech (1SN COMMANDER)

Issued to

Alfagomma Hydraulic S.p.A.
Castellalto TE, Italy

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2018/773,**

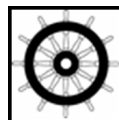
item No. MED/3.15c. SOLAS 74 as amended, Regulation II-2/4 & X/3 and 2000 HSC Code 7 & 10 and IMO MSC/Circ.1120

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-10-11.**

Issued at **Høvik** on **2018-10-12**

DNV GL local station:
Milan



for **DNV GL AS**

Approval Engineer:
Adel Samiei

Notified Body
No.: **0575**

.....
Roald Vårheim
Head of Notified Body



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Job Id: **344.1-001864-4**
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Product description

- (a) **Designation:** 1SN Temp-tech acc. to EN 853 1SN and SAE 100 R1AT (1SN COMMANDER)
 Tube: Oil resistant synthetic rubber compound
 Reinforcement: One high tensile steel braid
 Cover: Synthetic rubber compound, weather, oil and abrasion ozone and hydrocarbon resistant
- (b) **Designation:** Dunlop Hiflex SP33 Series (3SPT, 3SPG)
 Tube: Oil resistant synthetic rubber compound
 Reinforcement: Three high tensile steel braids
 Cover: Synthetic rubber compound, weather-, oil- and abrasion and ozone resistant
 Black rubber cover (3SPT)
- (c) **Designation:** Alfagomma: Flexopak 2 / Flexopak 2 Supertuff Flexopak 2SC HF
 Dunlop: Super Slimline 241T, 241G Slimline Plus 221T, 221G
 Tube: Oil resistant synthetic rubber compound
 Reinforcement: two steel wire braids
 Cover: Synthetic rubber compound, weather-, oil- and abrasion resistant

Couplings manufacturer: Alfagomma Hydraulic S.p.A., Zona Industriale Piano Lago, Mangone, Italy
 Hose manufacturers: Alfagomma Hydraulic S.p.A., Castelnuovo, Vomano, Italy (Except SP33)
 Alfagomma Hydraulic S.p.A., Industriale Piano Lago, Figline Vegliaturo, Italy

| Carbon Steel 11SMnPb30 according UNI EN 10277 | | | | | | | |
|---|----|------|-------------------------------|-------------|-------------|-------------------|-------------|
| Stainless Steel AISI 304 - AISI 316 | | | | | | | |
| Hose size | | | 1SN Temp-tech (1SN COMMANDER) | | | | |
| | | | Skive fittings | | | No skive fittings | |
| Dash | DN | inch | AG Branding | | DH Branding | AG Branding | DH Branding |
| - 04 | 6 | ¼ | H1100204-04 | H1100SK1-04 | D330000-04 | H1200AD1-04 | D110000-04 |
| - 06 | 10 | 3/8 | H1100204-06 | H1100SK1-06 | D330000-06 | H1200AD1-06 | D110000-06 |
| - 08 | 12 | ½ | H1100204-08 | H1100SK1-08 | D330000-08 | H1200AD1-08 | D110000-08 |
| - 10 | 16 | 5/8 | H1100204-10 | H1100SK1-10 | D330000-10 | H1200AD1-10 | D110000-10 |
| - 12 | 19 | ¾ | H1100204-12 | H1100SK1-12 | D330000-12 | H1200AD1-12 | D110000-12 |
| - 16 | 25 | 1 | H1100204-16 | H1100SK1-16 | D330000-16 | H1200AD1-16 | D110000-16 |
| - 20 | 31 | 1 ¼ | H1100104-20 | - | - | H1200AD1-20 | D110000-20 |
| - 24 | 38 | 1 ½ | H1100104-24 | - | - | H1200AD1-24 | D110000-24 |
| - 32 | 51 | 2 | H1100104-32 | - | - | H1200AD1-32 | D110000-32 |

| Carbon Steel 11SMnPb30 according UNI EN 10277 | | | | | | |
|---|----|------|--|----------------------------|--|-------------|
| Stainless Steel AISI 304 - AISI 316 | | | | | | |
| Hose size | | | Flexopak 2SC HF / Slimline Plus 221T, 221G | | Dunlop Hiflex SP33 Series (3SPT, 3SPG) | |
| | | | Skive fittings | No skive fittings | Couplings designation (Skive fittings) | |
| Dash | DN | inch | AG Branding | | AG Branding | DH Branding |
| -04 | 6 | ¼ | H1100204-04 | H1200102-04 | - | - |
| -05 | 8 | 5/16 | H1100204-05 | H1200202-05 | - | - |
| -06 | 10 | 3/8 | H1100204-06 | H1200202-06 H1200212-06 | H1100404-06 | D440000-06 |
| -08 | 12 | ½ | H1100204-08 | H1200202-08 H1200212-08 | H1100404-08 | D440000-08 |
| -10 | 16 | 5/8 | H1100204-10 | H1200202-10 | H1100404-10 | D330000-10 |
| -12 | 19 | ¾ | H1100204-12 | H1200202-12 | H1100404-12 | D440000-12 |
| -16 | 25 | 1 | H1100204-16 | H1200202-16 | H1100404-16 | D330000-16 |
| -20 | 31 | 1 ¼ | H1100104-20 | - | H1100404-20 | D330000-20 |

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| Hose size | | | Flexopak 2/ Flexopak 2 Supertuff - Super Slimline 241T, 241G | | | | |
|-----------|----|-------|--|-------------|-------------|--------------|-------------|
| | | | SKIVE | | NO SKIVE | | SKIVE |
| Dash | DN | inch | AG Branding | DH Branding | DH Branding | AG Branding | AG Branding |
| - 04 | 6 | 1/4 | H1100204-04 | D330000-04 | D110000-04 | H1200AD1-04 | H1100SK1-04 |
| - 05 | 8 | 5/16 | H1100204-05 | D330000-05 | D110000-05 | H1200AD1-05 | H1100SK1-05 |
| - 06 | 10 | 3/8 | H1100204-06 | D330000-06 | D110000-06 | H1200AD1-06 | H1100SK1-06 |
| - 08 | 12 | 1/2 | H1100204-08 | D330000-08 | D110000-08 | H1200AD1-08 | H1100SK1-08 |
| - 10 | 16 | 5/8 | H1100204-10 | D330000-10 | D110000-10 | H1200AD1-10 | H1100SK1-10 |
| - 12 | 19 | 3/4 | H1100204-12 | D330000-12 | D110000-12 | H1200AD1-12 | H1100SK1-12 |
| - 16 | 25 | 1 | H1100204-16 | D330000-16 | D110000-16 | H1200AD1-16 | H1100SK1-16 |
| - 20 | 31 | 1 1/4 | H1100104-20 | - | - | H1200AD1-20 | H1100404-20 |
| -24 | 38 | 1 1/2 | - | - | - | H1200AD1-24 | - |
| -32 | 51 | 2 | - | - | - | H1200AD1-32 | - |
| -40 | 63 | 2 1/2 | - | - | - | H1200TX2-40 | - |
| -48 | 76 | 3 | - | - | - | C122XXXXX-48 | - |

Application/Limitation

Hose assemblies covered by this certificate are tested according to:

- 1) NS-EN ISO 15540: Fire resistance of hose assemblies- Test methods
- 2) NS-EN ISO 15541: Fire resistance of hose assemblies - Requirements for the test bench

| Size | | | Maximum working pressure (bar) | | | |
|-------|----|------|--|---|----------------|-------------------|
| inch | DN | DASH | Flexopak2 / Super Slimline 241T,241G | Flexopak 2SC HF / Slimline Plus 221T,221G | SP33 series | 1 SN Temp-tech |
| 1/4 | 6 | - 04 | 420 | 400 | - | 225 |
| 5/16 | 8 | - 05 | 375 | 350 | - | - |
| 3/8 | 10 | - 06 | 350 | 330 | 500 | 180 |
| 1/2 | 12 | - 08 | 310 | 275 | 470 | 160 |
| 5/8 | 16 | - 10 | 280 | 250 | 410 | 130 |
| 3/4 | 19 | - 12 | 240 | 215 | 375 | 105 |
| 1 | 25 | - 16 | 210 | 165 | 327 | 88 |
| 1 1/4 | 31 | - 20 | 140 | - | 240 | 63 |
| 1 1/2 | 38 | -24 | 125 | - | - | 50 |
| 2 | 51 | -32 | 100 | - | - | 40 |
| 2 | 63 | -40 | 75 | - | - | - |
| 3" | 76 | -48 | 70 | - | - | - |

Type Examination documentation

LAPI test reports Test report n. 1413, 1414 and 1415.0ISO0110//09 dated 2009-11-09 and 2009-11-05 and 2093, 2094 & 2095 .0ISO0110/16 dated 2016-12-12

LAPI fire test reports nos 442.0ISO110/08, 443.0ISO110/08, 444.0ISO110/08 dated 2008-04-08 and 2008-04-07

LAPI fire test report nos 530/04, 531/04 dated 2004-06-21

WTD71 fire test report nos 25/98 dated 1998-01-24

LAPI fire test report nos 525/04, 527/04 and 528/04 dated 2004-06-21

Tests carried out

Fire testing according to ISO 15540 and ISO 15541

Marking of product

For traceability to this certificate, each hose is marked with:

Hose manufacturer's name or trademark; Date of manufacture (month/year); Designation type reference; Nominal diameter; Pressure rating; Temperature rating.