

EC-TYPE EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2014/93/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Materials other than steel for pipes conveying oil or fuel oil

with type designation(s)

301SN, 372, 372TC, 387, 387TC, 387ST, 421SN, 462, 462TC, 462ST, 462CIF, 487, 487TC, 487ST, 492, 492TC, 492ST, 722CIF, 722TC, 787, 787TC, 787ST, 797, 797TC, 797ST, 811, 811S, H29, H29TC, H29ST, H31, H31TC, H31ST, R35TC, RS35TC, R35ST, R42, R42TC, R42ST

Issued to

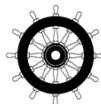
PARKER HANNIFIN MANUFACTURING SRL
Veniano CO, Italy

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

Annex A.1, item No. A.1/3.15c and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/4.2.2.5.1, II-2/4.2.2.5.6 & X/3 and 2000 HSC Code 7.5.4.

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

Høvik, 2015-11-13
for **DNV GL AS**



This Certificate is valid until
2020-08-09

Notified Body No.: **0575**

Vidar Dolonen
Head of Department

DNV GL local office:
Milan

Tom Berg-Nielsen
Surveyor

Product description

Flexible hoses with permanently fitted couplings.

TC = Tough Cover, ST = Super Tough Cover, CLF = Chlorine Free Cover

Hose design:

301SN according to EN 853 2SN - ISO 1436 2SN: Synthetic rubber tube inner tube - two braids of high tensile steel wire reinforcement separated by a synthetic rubber layer. Oil, weather and abrasion resistant synthetic rubber black outer cover.

Couplings: Parker Series 48 in Carbon Steel and Stainless Steel

372, 372TC, 372ST: according to Parker spec. with EN 856 4 SP pressure rating. Synthetic rubber inner tube, three braids of high tensile steel wire reinforcement separated by a synthetic rubber layer. Oil, weather and abrasion resistant synthetic black rubber cover.

Couplings: Parker Series 70 in Carbon Steel and Stainless Steel

387, 387TC, 387ST: Hose construction and rating according to ISO 18752 class 210 type AC-CC.

Couplings: Parker series 43 and 48 in Carbon steel and Stainless steel.

421SN according to EN 853 1SN - ISO 1436 1SN: Synthetic rubber inner tube - one braid of high tensile steel wire reinforcement. Oil, weather and abrasion resistant synthetic rubber black outer cover.

Couplings: Parker Series 48 in Carbon Steel and Stainless Steel

462, 462TC and 462ST, 462CLF: according to EN 857 1 SC – ISO 11237 1SC. Synthetic rubber inner tube, two braids of high tensile steel wire reinforcement separated by a synthetic rubber layer. Oil, weather, fire and abrasion resistant synthetic black rubber cover. TC = Tough Cover, ST = Super Tough Cover.

Couplings: Hose 462,46TC ,462ST Parker coupling series 43/46/48 made of carbon or 316 stainless steel

487, 487TC, 487ST: Hose construction and rating according to ISO 18752 for Class 280 Grade A Type AC-CC. TC = Tough Cover, ST = Super Tough Cover

Couplings: Parker series 43 and 48 in Carbon steel and Stainless steel.

492, 492TC and 492ST: according to EN 857 2SC – ISO 11237 2SC. Synthetic rubber inner tube, one braid of high tensile steel wire reinforcement separated by a synthetic rubber layer. Oil, weather, fire and abrasion resistant black synthetic rubber cover.

Couplings: Series 46 made of carbon or 316 stainless steel

722CLF, 722TC: Hose construction: Parker Proprietary hose regarding dimensions Rating according to SAE J517 R12, ISO3862, EN856 R12.

TC = Tough Cover, CLF = Chlorine Free Cover

Couplings: Parker series 43 in Carbon and Stainless steel

787, 787TC, 787ST: Hose construction: Parker proprietary hose regarding dimensions.

Rating according to ISO 18752 type DC. TC = Tough Cover, CLF = Chlorine Free Cover

Couplings: Parker series 77 in Carbon and Stainless steel

797, 797TC, 797ST: Hose construction: Parker proprietary hose regarding dimensions.

Rating according to ISO 18752 type DC

Couplings: Parker Series 77 in Carbon and Stainless steel

811, 811S: Inner tube of synthetic rubber reinforced by 2 textile braids. A steel wire spiraled throughout the textile reinforcement to maintain vacuum properties. Synthetic rubber cover.

A fire sleeve type FS-F is to be fitted for applications where fire resistance is required.

Couplings: Designated Parker Couplings from Parker Catalogue 4400/UK

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H29, H29TC, H29ST: according to EN 856 4SH – ISO 3862-1 4SH. Synthetic rubber inner tube, four spirals of high tensile steel wire reinforcement separated by a synthetic rubber layer. Oil, weather and abrasion resistant synthetic black rubber cover.

Couplings: Parker Series V4 in Carbon Steel and Stainless Steel

H31, H31TC, H31ST: according to EN 856 4SP – ISO 3862-1 4SP. Synthetic rubber inner tube, four spirals of high tensile steel wire reinforcement separated by a synthetic rubber layer. Oil, weather and abrasion resistant synthetic black rubber cover.

Couplings: Couplings: Parker Series VS for -6 to -16. V4 for all sizes in Carbon Steel and Stainless Steel

R35, R35TC, RS35TC: Hose construction: Parker Proprietary hose regarding dimensions.

Rating according to ISO 3862-1 type R13. TC = Tough Cover, CLF = Chlorine Free Cover

Couplings: Parker series V4 in Carbon and Stainless steel for sizes -12, -16, -20, V6 in Carbon and Stainless steel for size -24, -32, -40 and -48

R42: according to ISO 3862-1 R15. Synthetic rubber inner tube, four or six spirals of high tensile steel wire reinforcement separated by a synthetic rubber layer. Oil, weather and abrasion resistant synthetic black rubber cover.

Couplings: Parker series V4 for -10 to -16, V6 for -20, -24 and - 32 in Carbon Steel and Stainless Steel.

Hose manufacturer:

Parker Hannifin Manufacturing Srl
Via G.B. Pirelli 6
22070 Veniano (CO)
Italy

Coupling manufacturer:

Parker Hannifin GmbH
Fluid Verbindungsteile
Freiherr vom Stein Strasse
35325 Mücke
Germany

Application/Limitation

May be used for petroleum base hydraulic fluids and lubrication oil

Maximum working pressure:

Hose type	Nom. Int. diameter	Max working pressure
	mm	Bar
301SN-4	6. 3	400
301SN-5	7. 9	350
301SN-6	9. 5	330
301SN-8	12. 7	275
301SN-10	15. 9	250
301SN-12	19. 0	215
301SN-16	25. 4	165
301SN-20	31. 8	125
301SN-24	38. 1	90
301SN-32	50. 8	80

Temperature range:

Hose type	Medium:	Temperature range:
301SN	Petroleum base hydraulic fluids and lubrication oil	-40°C to 100°C

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Hose type			Hose size	Max working pressure
			mm	bar
372-6	372TC-6	372ST-6	10.0	445
372-8	372TC-8	372ST-8	12.5	415
372-10	372TC-10	372ST-10	16.0	350
372-12	372TC-12	372ST-12	19.0	350
372-16	372TC-16	372ST-16	25.0	280

Temperature range:

Hose	Medium	Temperature range
372/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40 °C to 100 °C

Maximum working pressure:

Hose type			Hose size	Max working pressure	
			mm	bar	psi
387-4	387TC-4	387ST-4	6,5	210	3000
387-6	387TC-6	387ST-8	9,5	210	3000
387-8	387TC-8	387ST-8	12.5	210	3000
387-10	387TC-10	387ST-10	16.0	210	3000
387-12	387TC-12	387ST-12	19.0	210	3000
387-16	387TC-16	387ST-16	25.0	210	3000

Hose	Medium	Temperature range
387/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40 °C to 100 °C

Hose type	Hose size	Max working pressure
	mm	Bar
421SN-4	6. 3	225
421SN-5	8. 0	215
421SN-6	10. 0	180
421SN-8	12. 5	160
421SN-10	16. 0	130
421SN-12	19. 0	105
421SN-16	25. 0	88
421SN-20	31. 5	63
421SN-24	38. 0	50
421SN-32	51. 0	40

Temperature range:

Hose	Medium:	Temperature range:
421SN	Petroleum base hydraulic fluids and lubrication oil	-40°C to 100°C

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Hose type			Hose size	Max working pressure
			mm	Bar
462-4	462TC-4	462ST-4	6.3	425
462-5	462TC-5	462ST-5	8.0	400
462-6	462TC-6	462ST-6	10.0	350
462-8	462TC-8	462ST-8	12.5	310
462-10	462TC-10	462ST-10	16.0	280
462-12	462TC-12	462ST-12	19.0	280
462-16	462TC-16	462ST-16	25.0	210
462-20	462TC-20	462ST-20	31.5	172
462-24	462TC-20	462ST-24	38,0	146
462-32	462TC-20	462ST-32	51,0	112
462-40	462TC-40	462ST-40	63,5	70
462-48	462TC-48	462ST-48	76,0	70

Temperature range:

Hose	Medium:	Temperature range:
462/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40°C to 100°C

Hose type			Hose size	Max working pressure	
			mm	bar	psi
487-4	487TC-4	487ST-4	6,5	280	4000
487-6	487TC-6	487ST-8	9,5	280	4000
487-8	487TC-8	487ST-8	12.5	280	4000
487-10	487TC-10	487ST-10	16.0	280	4000
487-12	487TC-12	487ST-12	19.0	280	4000
487-16	487TC-16	487ST-16	25.0	280	4000

Temperature range:

Hose	Medium	Temperature range
487	Petroleum base hydraulic fluids and lubrication oil	-40°C to +125°C

Hose type			Hose Size	Max working pressure
			mm	bar
492-4	492TC-4	492ST-4	6.3	280
492-5	492TC-5	492ST-5	8.0	250
492-6	492TC-6	492ST-6	10.0	225
492-8	492TC-8	492ST-8	12.5	190
492-10	492TC-10	492ST-10	16.0	150
492-12	492TC-12	492ST-12	19.0	150
492-16	492TC-16	492ST-16	25.0	110
492-20	492TC-20	492ST-20	31.5	75

Temperature range:

Hose	Medium	Temperature range
492/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40°C to 100°C

Hose type	Hose size	Max working pressure
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		mm	bar	psi
722TC-6	722CLF-6	9,5	280	4000
722TC-8	722CLF-8	12.5	280	4000
722TC-10	722CLF-10	16.0	280	4000
722TC-12	722CLF-12	19.0	280	4000
722TC-16	722CLF-16	25.0	280	4000

Temperature range:

Hose	Medium	Temperature range
722TC	Petroleum base hydraulic fluids and lubrication oil	-40°C to +125°C

Hose type			Hose size	Max working pressure	
			mm	bar	Psi
787-6	787TC-6	787ST-6	9,5	350	5000
787-8	787TC-8	787ST-8	12.5	350	5000
787-10	787TC-10	787ST-10	16.0	350	5000
787-12	787TC-12	787ST-12	19.0	350	5000
787-16	787TC-16	787ST-16	25.0	350	5000

Temperature range:

Hose	Medium	Temperature range
787/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40°C to 125°C

Hose type			Hose size	Max working pressure	
			mm	bar	Psi
797-6	797TC-6	797ST-6	9,5	420	6000
797-8	797TC-8	797ST-8	12.5	420	6000
797-10	797TC-10	797ST-10	16.0	420	6000
797-12	797TC-12	797ST-12	19.0	420	6000
797-16	797TC-16	797ST-16	25.0	420	6000

Temperature range:

Hose	Medium	Temperature range
797/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40°C to 125°C

Hose type	Hose size				Max working pressure	
	DN	Inch	Dash size	mm	MPa	psi
811-12	20	¾"	-12	19.1	2.1	300
811-16	25	1"	-16	25.4	1.7	250
811-20	32	1 ¼"	-20	31.8	1.4	200
811-24	40	1 ½"	-24	38.1	1.0	150
811-32	50	2"	-32	50.8	0.7	100
811-40	62	2 ½"	-40	62.3	0.4	62
811-48	75	3"	-48	74.6	0.4	62
811S-64	100	4"	-64	99,2	1,0	150
811S-80	125	5"	-80	124	1,0	150

Temperature range:

Hose	Medium	Temperature range
811/S	Petroleum base hydraulic fluids and lubrication oil	-40°C to 100°C

Hose type	Hose size	Max working pressure
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			mm	Bar
H29-12	H29TC-12	H29ST-12	19.0	430
H29-16	H29TC-16	H29ST-16	25.0	400
H29-20	H29TC-20	H29ST-20	31.5	350
H29-24	H29TC-24	H29ST-24	38.0	310
H29-32	H29TC-32	H29ST-32	51.0	280

Temperature range:

Hose	Medium	Temperature range
H29/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40°C to 100°C

Hose type			Hose size	Max working pressure
			mm	Bar
H31-4	H31TC-4	H31ST-4	6.5	500
H31-6	H31TC-6	H31ST-6	10.0	445
H31-8	H31TC-8	H31ST-8	12.5	415
H31-10	H31TC-10	H31ST-10	16.0	390
H31-12	H31TC-12	H31ST-12	19.0	350
H31-16	H31TC-16	H31ST-16	25.0	310

Temperature range:

Hose	Medium	Temperature range
H31/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40°C to 100°C

Hose type				Hose size	Max working pressure	
				mm	bar	Psi
R35-12	R35TC-12	R35ST-12	-	19.0	350	5000
R35-16	R35TC-16	R35ST-16	-	25.0	350	5000
R35-20	R35TC-20	R35ST-20	-	31,5	350	5000
R35-24	R35TC-24	R35ST-24	-	38	350	5000
R35-32	R35TC-32	R35ST-32	-	51	350	5000
R35-40	R35TC-40	R35ST-40	-	63,5	350	5000
-	-	-	RS35ST-48	76,1	210	3000

Temperature range:

Hose	Medium	Temperature range
R35/TC/ST	Petroleum base hydraulic fluids and lubrication oil	-40°C to +121°C

Hose type	Hose size	Max working pressure
	mm	Bar
R42-10	15.9	420
R42-12	19.1	420
R42-16	25.4	420
R42-20	31.8	420
R42-24	38.1	420
R42-32	51.0	420

Temperature range

Hose	Medium:	Temperature range:
R42	Petroleum base hydraulic fluids and lubrication oil	-40°C to 120°C

Hoses used for continuous operation at temperatures higher than 100°C will have their lifetime reduced.

In such cases more frequent inspections and planned exchange should be a part of the maintenance program.

Type Examination documentation

Tests carried out

Fire test according to ISO 15540/ISO 15541

Marking of product

The hoses are marked with:

- Manufacturers name
- Type designation
-  0575, and year of production

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate must be verified by the Notified Body who also shall issue a Certificate of Conformity.

END OF CERTIFICATE