DNV·GL

Certificate No:
MEDB00001F1

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

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 the Kingdom 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)
Parker: No Skive 301SN, 421SN, 701, 731, 781, 792 and Parker 471 & 721 / PIX: PERFORMER, THERMAL, PROKOMP, ARMOUR, HIPULSE, IMPETUS, BASTION

Issued to
Parker Hannifin India Pvt. Ltd.
Nagpur maharashtra, India

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2015/559,**
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.

This Certificate is valid until **2021-09-22**.

Issued at **Høvik** on **2016-09-30**

DNV GL local station:
Mumbai CMC

Approval Engineer:
Adel Samiei

Notified Body
No.: **0575**

for **DNV GL AS**

Vidar Dolonen
Head of Notified Body

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Job Id: **344.1-004376-3**
Certificate No: **MEDB00001F1**

Product description

Designation	Design
PIX-PERFORMER®(1SN/2SN) & Parker No Skive 421SN and 301SN	Tube of seamless, synthetic rubber, reinforced by one (1SN) or two (2SN) wire braids, cover of synthetic rubber
PIX-PROKOMP®(1SC/2SC) & Parker 471	Tube of seamless, synthetic rubber, reinforced by one (1SC) or two (2SC) wire braids, cover of synthetic rubber
PIX-THERMAL®(1SN/2SN)	Tube of seamless, synthetic rubber, reinforced by one (1SN) or two (2SN) wire braid, cover of synthetic rubber
PIX-ARMOUR®(1SN/2SN)	Tube of seamless, synthetic rubber, reinforced by one (1SN) or two (2SN) wire braids, cover of synthetic rubber
PIX-ARMOUR® R12, R13 & R15	Tube of seamless, synthetic rubber, reinforced by 4 (R12 and R15) or 4-6 (R13) wire braids, cover of synthetic rubber
PIX-HIPULSE® 4SP/4SH, Parker No Skive 701 and 731	Tube of seamless, synthetic rubber, reinforced by 4 (4SP and 4SH) wire braids, cover of synthetic rubber
PIX-IMPETUS® R12,R13& R15, Parker 721, Parker No Skive 781 and 792	Tube of seamless, synthetic rubber, reinforced by 4 (R12 or R13) or 4-6 (R13 and R15) wire braids, cover of synthetic rubber
PIX-BASTION® 2SC, 4SP	Tube of seamless, synthetic rubber, reinforced by 4 (4SP) or two (2SC) wire braids, cover of synthetic rubber

Couplings:

Hose type	Carbon steel		Stainless steel	
	Insert	Ferrule	Insert	Ferrule
PIX-PERFORMER®	DKR	PF22	VDKR	VPF
PIX-PROKOMP®	DKR	PF23 (1) PF22 (2)	VDKR	VPF 23 (1) VPF 22 (2)
PIX-THERMAL®	DKR	PF22	VDKR	VPF22
PIX-ARMOUR®	DKR	PF22	VDKR	VPF22
Parker No-Skive 421SN	Parker 43 & 48 Seires		Parker 43C & 48C Seires	
Parker No-Skive 301SN	Parker 43 & 48 Seires		Parker 43C & 48C Seires	
Parker 471	Parker 43 & 48 Seires		Parker 43C & 48C Seires	
Parker No Skive 701	Fitting 70 series		Fitting 70C series	
Parker 721	Fitting 71 series		Fitting 71C series	
Parker No Skive 731	Fitting 73 series		Fitting 73C series	
Parker No Skive 781	Fitting 78 series		Fitting 78C series	
Parker No Skive 792	Fitting 79 series		Fitting 79C series	

(1) up to and incl ½" for 1SC
(2) above ½" for 1SC and for all sizes of 2SC

Size	PIX-ARMOUR R12& PIX-IMPETUS R12				PIX-ARMOUR R13/R15 & PIX-IMPETUS R13/R15			
	Carbon Steel		Stainless Steel		Carbon Steel		Stainless Steel	
DASH/DN	Ferrule	Insert	Ferrule	Insert	Ferrule	Insert	Ferrule	Insert
-6/10	PF12	DKR	VPF12	VDKR	PF12	DKR	VPF12	VDKR
-8/12								
-10/16								
-12/19					MPF3	MDKOR	VMPF3	VMDKOR
-16/25	MPF3	MDKOR	VMPF3	VMDKOR				
-20/31					MPF4		VMPF4	
-24/38	MPF4		VMPF4					

Size	PIX-HIPLUS 4SP				PIX-HIPLUS 4SH			
	Carbon Steel		Stainless Steel		Carbon Steel		Stainless Steel	
DASH/DN	Ferrule	Insert	Ferrule	Insert	Ferrule	Insert	Ferrule	Insert
-6/10	PF12	DKR	VPF12	VDKR	-	-	-	-
-8/12								
-10/16					PF12	DKR	VPF12	VDKR
-12/19					MPF3	MDKOR	VMPF3	VMDKOR
-16/25	MPF3	MDKOR	VMPF3	VMDKOR				
-20/31	MPF4		VMPF4		MPF4		VMPF4	
-24/38								

Size	PIX-BASTION 2SC				PIX-BASTION 4SP			
	Carbon Steel		Stainless Steel		Carbon Steel		Stainless Steel	
DASH/DN	Ferrule	Insert	Ferrule	Insert	Ferrule	Insert	Ferrule	Insert
-6/10	PF22	DKR	VPF22	VDKR	PF12	DKR	VPF12	VDKR
-8/12								
-10/16								
-12/19					MPF3	MDKOR	VMPF13	VMDKOR
-16/25					-	-	-	-
-20/31								
-24/38								

Hoses and couplings are manufactured by Parker Hannifin India.

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

Max working pressure (bar)

DASH	DN	Parker No Skive 421SN		Parker No Skive 301SN		Parker 471	
		Product code	(bar)	Product code	(bar)	Product code	(bar)
-4	6	421SN -4	225	301SN -4	400	471-4	400
-5	8	421SN -5	215	301SN -5	350	471-5	350
-6	10	421SN -6	180	301SN -6	330	471-6	330
-8	12	421SN -8	160	301SN -8	275	471-8	275
-10	16	421SN -10	130	301SN -10	250	471-10	250
-12	19	421SN -12	105	301SN -12	215	471-12	215
-16	25	421SN -16	88	301SN -16	165	471-16	165
-20	31	421SN -20	63	301SN -20	125	471-20	125
-24	38	421SN -24	50	301SN -24	90	-	-
-32	51	421SN -32	40	301SN -32	80	-	-

DASH	DN	PIX-PERFORMER®				PIX - PROKOMP®			
		1SN		2SN		1SC		2SC	
		Product code	(bar)	Product code	(bar)	Product code	(bar)	Product code	(bar)
-4	6	PE106	225	PE206	400	PK106	225	PK206	400
-5	8	PE108	215	PE208	350	PK108	215	PK208	350
-6	10	PE110	180	PE210	330	PK110	180	PK210	330
-8	12	PE112	160	PE212	275	PK112	160	PK212	275
-10	16	PE116	130	PE216	250	PK116	130	PK216	250
-12	19	PE119	105	PE219	215	PK119	105	PK219	215
-16	25	PE125	88	PE225	165	PK125	90	PK225	165
-20	31	PE131	63	PE231	125	-	-	PK231	125
-24	38	PE138	50	PE238	90	-	-	-	-
-32	51	PE151	40	PE251	80	-	-	-	-

DASH	DN	PIX - THERMAL®				PIX - ARMOUR®			
		1SN		2SN		1SN		2SN	
		Product code	(bar)	Product code	(bar)	Product code	(bar)	Product code	(bar)
-4	6	TH106	225	TH206	400	PE106AR	225	PE206AR	400
-5	8	TH108	215	TH208	350	PE108AR	215	PE208AR	350
-6	10	TH110	180	TH210	330	PE110AR	180	PE210AR	330
-8	12	TH112	160	TH212	275	PE112AR	160	PE212AR	275
-10	16	TH116	130	TH216	250	PE116AR	130	PE216AR	250
-12	19	TH119	105	TH219	215	PE119AR	105	PE219AR	215
-16	25	TH125	90	TH225	165	PE125AR	90	PE225AR	165
-20	31	TH131	63	TH231	125	PE131AR	63	PE231AR	125
-24	38	TH138	50	TH238	90	PE138AR	50	PE238AR	90

DASH	DN	PIX ARMOUR R12	PIX ARMOUR R13	PIX ARMOUR R15	PIX BASTION 4SP *	PIX BASTION 2SC
-6	10	280	350	420	460	330
-8	12	280	350	420	430	275
-10	16	280	350	420	380	250
-12	19	280	350	420	380	245
-16	25	280	350	420	*320* *	210
-20	31	280	350	420	-	-
-24	38	280	350	420	-	-
-32	51	280	-	-	-	-

DASH	DN	PIX IMPETUS R12	PIX IMPETUS R13	PIX IMPETUS R15	PIX HIPLUS 4SP	PIX HIPLUS 4SH
		721	781	792	701	731
-4	6	-	-	-	-	-
-5	8	-	-	-	-	-
-6	10	280	-	420	460	-
-8	12	280	350	420	430	-
-10	16	280	350	420	350	-
-12	19	280	350	420	350	420
-16	25	280	350	420	320	390
-20	31	280	350	420	210	250
-24	38	280	350	420	190	290
-32	51	280	350	420	175	250

Type Examination documentation

- Extracts from the manufacturers hose catalogue
- Manufacturers end fitting catalogue
- Specification of material used in the coupling ferrule and insert
- Fire test report (according to ISO15541:1999) dated dated 01-04-2011 & 02-04-2011 witnessed by DNV local surveyor of Mumbai (PROKOMP 1SC & 2SC ; ARMOUR 1SN & 2SN ; PIX – THERMAL 1SN & 2SN)
- Burst test report dated dated 18-11-2014 witnessed by DNV local station Mumbai (421SN & 301SN)
- Fire test report (according to ISO15541:1999) dated dated 18-11-2014 witnessed by DNV local surveyor of Mumbai (421SN & 301SN)
- Declaration of change in ownership/acquisition from Pix to Parker Hannifin, including declaration of brand names, dated 11th July 2012
- Fire test report (according to ISO15541:1999) dated dated 01-04-2011 & 02-04-2011 witnessed by DNV local station Mumbai
- Fire test report (according to ISO15541:1999) dated dated 18-11-2014 witnessed by DNV local station Mumbai
- Fire test reports on PIX IMPETUS R13 witnessed by DNV local station Mumbai dated 15-11-2012
- Fire test reports on PIX HIPLUS 4SP witnessed by DNV local station Mumbai dated 15-11-2012
- Fire test reports on PIX HIPLUS 4SH witnessed by DNV local station Mumbai dated 15-11-2012

Tests carried out

Fire tests carried out according to ISO 15540/15541

Marking of product

As a minimum, the final products (hoses with couplings) are to be marked with:

- Manufacturers name or trademark
- Manufacturer’s address
- Specification or hose name
- Hose size (inside diameter in inches)
- Data code (quarterly and daily production code)