DNV·GL

TECHNOLOGY CERTIFICATE

Certificate no.:
<10169024-1>

Valid until:
April 21th, 2024

This is to certify that qualification of the technology designated as

Parker Phastite Pipe Fitting

has been conducted in accordance with DNVGL -RP-A203 /1/ as reported in DNV GL Technical Report /3/ and DNV GL considers the technology qualified for its intended use as defined in /2/.

This is not a product certificate.

Technology Owner:	**Parker Hannifin Corporation**
Description:	Phastite Pipe Fittings are permanent non-welded "Mechanically Attached Fittings (MAFs) replacing welded pipe, fittings, and flanges used in pressure piping systems for onshore, topside, & subsea oil and gas applications. Phastite fittings are assembled using a Phastool hydraulic swaging press and tooling.
Application:	Pressure piping for power units, pumps, valves, motors, accumulators and other hydraulic/fluid power systems for subsea control systems, production equipment, and offshore/topside fluid power equipment. Gas and general fluid conveyance within application parameters or code.
Involvement:	DNV GL has been involved in the qualification process as required for Technology Qualification Management according to /2/.
Limitations:	Max. Pressure Rating Static/Dynamic*: 10,000/6,000 psi (70/41 MPa) Min. Temperature: -40°F (-40°C) Max. Temperature: 180°F (82°C) Max. Water Depth: 15,000 ft (4752M) Materials: UNS S31803-collar, UNS S31600/S31603-body Design Life: 25 years Service: All materials are NACE MR0175 compliant, not rated for H2S service Min. Allowable Cathodic Protection: -1.05 V vs. SCE Pipe Specifications: ASTM A312, Pipe Sizes: 3/4"-2" Pipe Materials: 304/304L, 316/316L 317/317L, 321, 347 Pipe schedule: 40, 80, 160, XXH/XXS Qualification is based on the design and material of the tested specimens only. Further limitations are given in /3/, /4/ and /5/. *Static pressure rating means 30,000 or less pressure cycles in a lifetime (dynamic is above 30,000 cycles).
Reference documents:	/1/ DNVGL-RP-A203, Technology Qualification, June 2017 /2/ DNVGL-SE-0160, Technology Qualification Management and Verification, February 2018 /3/ DNV GL Technology Qualification Report (13UKCGC-8), Rev.0, July8, 2013 /4/ Parker Report, Qualification Basis of Parker Phastite Pipe Fittings, Ver. 05, May 25, 2012 /5/ Parker Report, Technology Qualification Plan, Ver.04, April 17, 2013 /6/ Amendment for Parker Phastite Pipe Fitting -TQ Certificate Renewal, Rev 0, April 21, 2020 /7/ ASME B31.1/B31.3 Piping Codes /8/ ASTM F1387

Houston, April 21th, 2020 for DNV GL

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Senior Engineer

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