



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 15/FEB/2020. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 13/DEC/2020 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Expansion Joint, Rubber

Model Name(s): Teguflex P, Teguflex P HP and Teguflex P HO

Presented to:

TRELLEBORG IZARRA SAU
C/ SAN VICENTE, 23
Spain

Intended Service:

Teguflex P (Yellow): Fresh/Sea water, lubricating oil, fuel oil, alkalis, compressed air, sanitary; Teguflex P (Red): Fresh/Sea water, alkalis, sanitary; Teguflex P (Green): Strong and concentrated acids; Teguflex P HP: Hot water, steam, air; Teguflex P HO: Oils, water/oils, compressed air/oils

Description:

Rubber Compensators spherical shaped with synthetic cord reinforcement. Equipped with loose flanges of carbon steel or stainless steel. Teguflex P (Red): Inner Tube: EPDM; Reinforcement: Nylon Cord Outer Tube: EPDM Teguflex P (Yellow): Inner Tube: Epichlorohydrin (ECO) Reinforcement: Nylon Cord Outer Tube: ECO Teguflex P (Green): Inner Tube: CSM Reinforcement: Nylon Cord Outer Tube: Chloroprene Teguflex P HP (Double Red): Inner Tube: EPDM Special; Reinforcement: Aramide Outer Tube: EPDM Special Teguflex P HO (Double Yellow) Inner Tube: HNDR Reinforcement: Aramid Outer Tube: HNBR

Ratings:

Temperature Range: Teguflex P: - 25 to +90 Deg C Teguflex P HP (Double Red): -35 to +130 Deg C Teguflex P HO (Double Yellow): -20 Deg C to +120 Deg C Maximum Working Pressure: Teguflex P: 16 bar at 70 Deg C and 10 bar at 90 deg C. Teguflex P HP : For Sizes Up to DN 150 : 16 bar up to 100 Deg C and 10 bar at 130 deg C. Teguflex P HP : For Sizes DN 200 & above : 10 bar up to 100 Deg C and 6 bar at 130 Deg C. Teguflex P HO: 16 bar up to 100 Deg C and 10 bar up to 120 Deg C Size Range: DN25 to DN 300

Service Restrictions:

1) The suitability of the subject expansion joints for use in piping systems conveying chemicals will be carried out on a case by case basis for application on

ABS Classed Vessels. 2) Where the expansion joints are used in oil piping systems (fuel, lubricating or hydraulic oil), the expansion joints are to be used together with duly tested flame guards. 3) Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

1) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. 2) Expansion joints are to be installed in accordance with manufacturer's recommendations and 4-6-2/9.5 of the Steel Vessel Rules. 3) Expansion joints are to be permanently marked with the manufacturer's name and the month and year of manufacture

Notes / Documentation:

1) Report Number 7164-T-07-B01, Trelleborg Expansion Joints - Burst Test of 11-03-2003, 2) Test Report 24130 – ASTM D 471 – HNBR for HO Expansion joints 3) Document Number U700 – HNBR Technical Specification, dated 04 November 2015 4) Certificate Number MB-6370, Burst Tests, dated 19 March 2014 5) Drawing Number 8217, Expansion Joint Teguflex P-U HO, Sheet 1 of 1, Revision -, dated 10 September 2013 6) Datasheet - Teguflex HP Trelleborg TF BL 130/200 7) Datasheet - Teguflex P Trelleborg TF BL 130. 8) Datasheet – Teguflex P HO

Term of Validity:

This Product Design Assessment (PDA) Certificate 15-LD1374164-PDA, dated 14/Dec/2015 remains valid until 13/Dec/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules:

Rules applicable to this assement are: 1) 2015 Steel Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/5.8.1(a) , 4-6-2/9.5 2) 2015 Mobile Offshore Drilling Units Rules 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-1/11.7

National Standards:**International Standards:****Government Authority:****EUMED:****Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	15-LD1374164-PDA	15/DEC/2015	13/DEC/2020



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.