



ABS

01-HG239785-PDA
CERTIFICATE NUMBER

19 July 2001
DATE

Hamburg
ABS TECHNICAL OFFICE

CERTIFICATE OF Product Design Assessment

This is to Certify **Rasmussen GmbH**
(COMPANY)

that a representative of this Bureau did, at the request of the above noted Company, assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate; and it will remain valid for five years from the date of issue or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Pipe Couplings (Connectors)

MODEL: G1, G2, GL1, GL2, F1, F2, FL1, FL2

ABS RULE: 2001 SVR, 4-6-2/5.13/5.7.4; 5-7-1/5.32

OTHER STANDARD: DIN 267, 433-1, 53504/5, 53517, 53470, EN 10088-1, ASTM-F1476, 1548 (G-type couplings only)

AMERICAN BUREAU OF SHIPPING


(ENGINEER)
H. Grommel

 ABS Type Approval Program


Type Approved Products

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Type Approval Certificate #	97-ES14675-X
Certificate Issue Date	23 Oct 1997
Product Name	Pipe Couplings (Connectors)
Model Name	G1,G2, GL1, GL2, F1, F2, FL1, FL2.
Intended Service	For installation in shipboard piping systems and used for connecting sections of pipes.
Description	Models are: Normaconnect: G1 (OD = 26.9 to 168.3 mm), G2 (OD = 180 to 219.1 mm), GL1 (OD = 26.9 to 168.3 mm), GL2 (OD = 180 to 406.4 mm), F1/FL1 (OD = 26.9 to 168.3 mm), F2/FL2 (OD = 180 to 1200 mm). I. Normaconnect: G1, G2, GL1, and GL2 - Axial restraint pipe connectors for metallic pipes, secured against tension. Stainless steel couplings available of materials identified by manufacturers group designations W2, W4, W5, with non metallic sleeves of "EPDM" or "NBR" material. All couplings with standard steel band inlay (synthetic inlay optional), heavy duty locking trunnions, conical stamped grip ring and two (2) lip sealing system (Type GL1 with hollow trunnions). II. Normaconnect: F1 and F2 - Clamp type fixtures for metallic pipes. Stainless Steel Couplings available for materials identified by manufacturers' group designations W2, W4, and W5 with non metallic sleeves of material "EPDM" or "NBR". Couplings "F2" available in four (4) types A, B, C, D differing in the thickness of casings with type A representing the weakest execution. All couplings with heavy duty locking trunnions, two (2) lip sealing arrangement and standard steel band inlay (synthetic inlay optional). Types FL1 and FL2 with hollow trunnions. Note to Item I and II above. Couplings for pipe sizes 26.9 OD up to 168.3 mm OD will be provided with non metallic sleeves made of improved quality "EPDM" material that would allow for an increased service temperature range from -30 degrees C to + 125 degrees C; -20 degrees C to +80 degrees C (EPDM/NBR) all other pipe sizes

Ratings	Normaconnect: G1 and G2: Nominal pressure rating (ND) all sizes 16 bar. Normaconnect: GL1: Nominal pressure rating (ND) all sizes 16 bar. Normaconnect: GL2: Nominal pressure rating (ND) max 10 bar, depending on actual diameter. Normaconnect: F2A/FL2A: Nominal pressure rating (ND) max 9.2 bar, depending on actual diameter. Normaconnect: F2B/FL2B: Nominal pressure rating (ND) max 13.7 bar, depending on actual diameter. Normaconnect: F2C/FL2C: Nominal pressure rating (ND) max 18.5 bar, depending on actual diameter. Normaconnect: F2D/FL2D: Nominal pressure rating (ND) max 23.5 bar, depending on actual diameter.
Service Restrictions	Slip type expansion joints are not to be used in systems listed below: Any class I piping system. Steering gear hydraulic systems. Starting air systems. Boiler feed water systems. CO-2 and other fixed gas fire extinguishing systems. Chemical cargo piping systems. Cargo oil lines located in pipe duct keels. Bilge pipelines located in cargo holds, deep tanks and double bottom tanks. Fuel oil, lubricating oil, hydraulic oil and thermal oil lines of class III systems located in machinery spaces of category A, accommodation spaces or non-mechanically ventilated pipe duct keels. Fuel oil, lubricating oil, hydraulic oil and thermal oil lines of Class II systems or where the use of slip type expansion joints is specifically prohibited by the Rules, e. g. for ballast piping on oil carriers. Couplings with synthetic strip insert are not to be used in flammable fluid conveying and water fire fighting systems.
Comments	The maximum piping misalignment and maximum allowable axial movement per coupling is to be limited as per manufacturer's specification. The pipe couplings (connectors) are not to be used for joining of plastic pipes. The installation of the couplings is to be carried out according to manufacturer's specifications. Sealing sleeves to be utilized as per manufacturer's recommendation. When this equipment is installed on ABS classed vessels/facilities the intended specific installation is subject to approval on a case by case basis.
Term of Validity	This product/model is covered under Product Design Assessment (PDA) Certificate # 01-HG239785-PDA, dated 19/Jul/2001. This PDA Certificate expires July of 2006. It will remain valid for the 5 years from date of issue or until the Rules or specifications used in the assessment are revised (whichever occurs first).
ABS Rules	2001 Steel Vessel Rules 4-6-2/5.13, 4-6-2/5.7.4, 5-1-7/5.3.2
International Standards	ISO 816, IACS.F35/F45
National Standards	DIN 267, 433-1, 53504, 53505, 53517, 53479, EN 10088-1, ASTM-F 1476, ASTM-F 1548

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