



TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

Certificate No: TO.DEB.15-0760

This Certificate consists of 2 pages.

This is to certify that the

MECHANICAL PIPE JOINT

With type designations

BORFLEX GRIP-M 26.9-609.6

Manufactured by

BORTEK BORU VE TESİSAT TEKNOLOJİLERİ DİŞ TİC. LTD. ŞTİ.
Beylikdüzü/İSTANBUL

Is found to comply with

TS 2827 / ISO 2781 Rubber, vulcanized - Determination of density. TS /ISO 7619-1 Rubber, vulcanized or thermoplastic - Determination of indentation hardness, ISO /FDIS 19921 Ships and marine technology - Fire resistance of metallic pipe components with resilient and elastomeric seals - Test methods, ISO/FDIS 19922 Ships and marine technology Fire resistance of metallic pipe components with resilient and elastomeric seals Requirements imposed on the test bench and Türk Loydu Materials Rules for Classification of Ship.

Application : Mechanical pipe joints intended for pipes of ship. It may be used pipe of ships and marine industry according to Türk Loydu rules. Chapter 4 Machinery 2015.

Design : BORTEK BORU VE TESİSAT TEKNOLOJİLERİ DİŞ TİC. LTD. ŞTİ.

Sizes : See Appendix I

Address of Manufacturer : Bakır ve Piriç San. Sitesi M. Kurtoğlu Cad. Erşe İş Merkezi
No:11/4 Beylikdüzü/İSTANBUL

Place and date : Tuzla/İSTANBUL 29.06.2015

Subject to the conditions referred to in the following pages, this certificate is valid until 28.06.2020.

İ.İlker KARPUZ
Head Of Marine Division

Akif Bülent HOLOSORLU
Surveyor



Form No: CE191-04/ 27th January 2012

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Product description ;

Type designation : BORFLEX GRIP-M 26.9-609.6

Materials used : To be referred to the approved drawing dated 05.05.2015
EPDM, NBR, AISI 304, AISI 301, AISI 316 L and Steel.

Application/Limitation(Approval conditions):

1- Mechanical Pipe joints intended for pipes of ship. It may be used pipe of ships according to Türk Loydu rules. Chapter 4 Machinery 2015.

2- Mechanical pipe joints properties follows.

NO	PROPERTIES	UNIT	NBR	EPDM
1	Hardness	ShA	70-75	60-65
2	Density	gr/cm ³	1.15-1.25	1.15-1.25
3	Temperature	°C	Between -20 to +100	Between -20 to +120
4	Pull Out	Kgf	2800	2800

Documentation:

Approval Drawing Ref No : P/0606/15-0760/HD/MKT

Test carried out(and results):

Following tests (Material test (Chemical and Mechanical), Hardness, Density, Visual inspection, Working pressure test, Pressure test, Burst test, Pull out test, Fire test (according to ISO 19921:2005 and ISO 19922:2005), Temperature test, Leakage test carried out, found satisfactory.

Place of test carried out:

BORTEK BORU VE TESİSAT TEKNOLOJİLERİ DİŞ TİC. LTD. ŞTİ.
(Bakır ve Piriç San. Sitesi M. Kurtoğlu Cad. Erşe İş Merkezi No:11/4 Beylikdüzü/İSTANBUL)

Marking of product:

For traceability to this type approval each product is at least to be marked with
- Manufacturer name and trade mark, Type designation

Akif Bülent HOLOSORLU
Surveyor

This certificate is valid if retention/renewal surveys carried out to the satisfaction of TL surveyor and following entries made:

Surveyor
...../2016
Survey Date

Surveyor
...../2017
Survey Date

Surveyor
...../2018
Survey Date

Surveyor
...../2019
Survey Date

This certificate is subject to terms and conditions described below.

Any significant change in design or construction may render this Certificate invalid. Type Approval Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without TL marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to the equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.

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TÜRK LOYDU

İKTİSADİ İŞLETMESİ

PIPE OUT DIAMETER (AD mm)	TYING SPACE (Min-Max mm)	NOMINAL PRESSURE (PN Bar)	DIMENSION		SPACE BETWEEN TWO PIPE		CONNECTIONS	
			WIDTH (mm)	LEAK SPACE (mm)	NO INSERT (mm)	INSERT (mm)	BOLT (M)	TORQUE (Nm)
26.90	26-28	20	56	17	5	5	2xM6	5
30.00	29-31	20	56	17	5	5	2xM6	5
33.70	33-35	20	56	17	5	5	2xM6	5
38.00	38-39	20	76	30	5	10	2xM8	10
42.40	42-43	20	76	30	5	10	2xM8	10
44.50	44-46	20	76	30	5	10	2xM8	10
48.30	47-50	20	76	30	5	10	2xM8	10
55.00	54-57	20	76	30	8	15	2xM8	10
57.00	56-59	20	76	30	8	15	2xM8	10
60.30	59-62	20	76	30	8	15	2xM8	10
70.00	69-72	20	105	47	10	28	2xM8	15
76.10	76-79	20	105	47	10	28	2xM8	15
85.00	84-87	20	105	47	10	28	2xM8	15
88.90	88-91	20	105	47	10	28	2xM8	20
101.60	101-104	20	105	47	10	28	2xM8	20
104.00	104-107	20	105	47	10	28	2xM8	20
108.00	108-111	20	105	47	10	28	2xM8	20
114.30	113-117	20	105	47	10	28	2xM8	20
127.00	125-129	16	120	60	10	30	2xM12	20
133.00	132-136	16	120	60	10	30	2xM12	20
139.70	138-143	16	120	60	10	30	2xM12	20
154.00	152-157	16	120	60	10	30	2xM12	30
159.00	157-162	16	120	60	10	30	2xM12	30
168.30	167-172	16	120	60	10	30	2xM12	30
180.00	178-182	12	152	81	10	30	2xM12	30
219.10	218-223	12	152	81	10	30	2xM12	30
273.00	272-277	10	152	81	10	30	2xM12	40
304.00	301-307	10	152	92	10	30	2xM12	40
323.90	323-329	10	152	92	10	30	2xM12	40
355.60	352-359	6	152	92	10	35	2xM12	30
406.40	402-410	6	152	92	10	35	2xM16	30
457.20	452-462	6	152	92	10	35	2xM16	30
508.00	503-523	4	152	92	10	35	2xM16	30
558.80	554-564	4	152	92	10	35	2xM16	30
609.60	604-614	4	152	92	10	35	2xM16	30

İ.İlker KARPUZ
Head Of Marine Division

Akif Bülent HOLOSORLU
Surveyor

Appendix I