DNV·GL

Certificate No:
TAP0000020

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Expansion Joint for Pipe, Slide Type and Flexible Type

with type designation(s)
PEJ, Packing Type Expansion Joint

Issued to
Wuxi Jinchang Piping & Valve Co., Ltd.
Wuxi, China

is found to comply with
Det Norske Veritas' Rules for Classification of Ships Pt.4, Ch.6 "Piping Systems"
Det Norske Veritas' Standards for Certification 2.9 No. 5-792.20

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Temperature range:	**0 to 170°C**
Max. working press.:	**1.6 MPa (16 bar)**
Sizes:	**DN50 to DN750**

This Certificate is valid until **2018-12-31**.

Issued at **Høvik** on **2015-07-22**

for **DNV GL**

DNV GL local station: **Jiangyin FiS&CMC**

Approval Engineer: **Tom Berg-Nielsen**

on behalf of Marianne Spæren Marveng
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-010874-2**
Certificate No: **TAP0000020**

Product description

Sliding type expansion joint

Type PEJ:
Sizes: DN50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700 and 750.

Materials:

Body:	Carbon steel Q235A/GB700-88, Stainless steel SUS304
Bushing:	Carbon steel Q235A/GB700-88, Stainless steel SUS304
Gland:	Carbon steel Q235A/GB700-88, Stainless steel SUS304
Expansion pipe:	Carbon steel Q235A/GB700-88, Stainless steel SUS304
Sealing ring:	NBR or FPM
Stuffing:	Soft graphite

Application/Limitation

Couplings with FPM sealing ring are considered to be fire resistant.

Slip-on joints allowed for systems marked +,
not allowed marked ÷.
(Limitation/remarks)

Systems			Systems		
Flammable fluids (Flash point ≤ 60 °C)			Fresh water		
1	Cargo oil lines	+ 5)	21	Cooling water system	+ 1)
2	Crude oil washing lines	+ 5)	22	Condensate return	+ 1)
3	Vent lines	+ 3)	23	Non-essential system	+
Inert gas			Sanitary/Drains/Scuppers		
4	Water seal effluent lines	+	24	Deck drains (internal)	+ 4)
5	Scrubber effluent lines	+	25	Sanitary drains	+
6	Main lines	+ 2) 5)	26	Scuppers and discharge (overboard)	÷ (no)
7	Distribution lines	+ 5)			
Flammable fluids (Flash point > 60°C)			Sounding/ vent		
8	Cargo oil lines	+ 5)	27	Water tanks/Dry spaces	+
9	Fuel oil lines	+ 3) 2)	28	Oil tanks (flash point > 60°C)	+ 2) 3)
10	Lubrication oil lines	+ 2) 3)			
11	Hydraulic oil	+ 2) 3)			
12	Thermal oil	+ 2) 3)			
Sea Water			Miscellaneous		
13	Bilge lines	+ 1)	29	Starting/control air	÷(no)
14	Fire main and water spray	+ 3)	30	Service air (non-essential)	+
15	Foam systems	+ 3)	31	Brine	+
16	Sprinkler system	+ 3)	32	C02 system	÷(no)
17	Ballast system	+ 1)	33	Steam	+ 6)
18	Cooling water system	+ 1)			
19	Tank cleaning services	+			
20	Non-essential system	+			

Limitations/remarks:

1) Inside machinery spaces of category A - only approved fire resistant types
2) Not inside machinery spaces of category A or accommodation spaces. May be accepted in other machinery spaces provided the joints are located in easily visible and accessible positions.
3) Approved fire resistant types.
4) Above free board deck only.
5) In pump rooms and open decks – only approved fire resistant types.
6) Approved slip type joints, provided that they are restrained on the pipes, may be used for pipes on deck with a design pressure of 10 bar or less.

The expansion joints may be used in Class II and III piping systems.

For fuel oil, lubrication oil and flammable hydraulic oil of Class II systems, the following limitation applies:

$P_{max.}$ = 16 bar, $t_{max.}$ = 150°C

The joints are to be assembled and mounted according to manufacturer's instructions.

Rubber elements and other parts subject to wearing to be replaced by new parts in case of repeated use of the joints.

For use in sea and fresh water cooling systems, the joints must at any time be accessible. Possible exceptions to be considered in each case.

The joints can be used on bilge lines provided the joints are at any time accessible, i.e. they can not be used for bilge lines carried through tanks.

The materials used in the joints must be resistant to the fluid carried in the pipe and also to the surrounding fluid if the joints are mounted in a tank.

Each joint is to be hydraulic pressure tested to 1.5 times the working pressure.

Temperature range dependent on the sealing material.

Sealing material and allowable temperature range:

Sealing Material		***Temp. Range***
NBR	Nitrile Rubber	0 to 100°C
FPM	Viton	0 to 170°C
	Graphite	0 to 170°C

Type Approval documentation
Tests carried out

Leakage, burst, vacuum and fire test in accordance with LDNV's TAP 5-792.20.

Marking of product

For traceability to this type approval, the products are to be marked with:

- Manufacturer's name or trade mark.
- Type designation.
- Size.
- Maximum design pressure or pressure class

- Arrow indicating flow direction.

Periodical assessment

For retention of the Type Approval, DNV Surveyor shall perform a survey – every second year and before the expiry date of this certificate – to verify that the conditions for the type approval are complied with and to witness burst testing on a selection of sizes.

END OF CERTIFICATE