



## Appendix 1

# Product Description and/or Approval Condition

Certificate No : HMB33980-PE002

Date of Issue :21st October, 2016

### 1. Product Description ;

#### (1) Tube Couplings Specification

\* L series (Light)

Size range(OD) (mm)	Design Pressure (bar)
6 ~ 10	500
12 ~ 18	400
22 ~ 42	250

\* S series (Heavy)

Size range(OD) (mm)	Design Pressure (bar)
6 ~ 10	800
12 ~ 16	630
20 ~ 38	420

#### (2) Reviewed Test Reports ;

- Tightness test, Burst Pressure test, Repeat assembly test, Pull out test :  
Report No. AEL 214/06/1 issued by VOSS dated 23 November 2006
- Vibration test, Vacuum test :  
Report No. C101/06 issued by IMA DRESDEN dated 7 December 2006
- Fire endurance test :  
Report No. 61070/106 issued by WTD 71 dated 20 September 2006

#### (3) Approved Drawing Numbers ;

0004750000, 0014380000, 0784190000, 0784240000, 0784280000, 0784290000  
0784340000, 0784380000, 0784390000, 0784440000, 0784480000, 0784490000  
0784540000, 0784580000

### 2. Approval Condition ;

#### (1) Intended for ;

This mechanical joints can be used for the following pipeline lines in easily visible and accessible positions:

- 1) Flammable fluids(Flash point  $\leq 60$  °C)  
: Cargo oil lines, Crude oil washing lines and Vent lines
- 2) Inert gas  
: Water seal effluent lines and Scrubber effluent lines  
: Main lines and Distribution lines
- 3) Flammable fluids(Flash point  $> 60$  °C)  
: Cargo oil lines  
: Fuel oil lines, Lubricating oil lines, Hydraulic oil and Thermal oil
- 4) Sea water  
: Bilge lines, Ballast system and Cooling water system  
: Fire main and water spray, Foam system and Sprinkler system  
: Tank cleaning services and Non-essential system
- 5) Fresh water  
: Cooling water system and Condensate return  
: Non-essential system
- 6) Sanitary/Drains/Scuppers  
: Deck drains (internal)  
: Sanitary drains

-To be continued-

## Appendix 2

# Product Description and/or Approval Condition

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- 7) Sounding/Vent
    - : Water tanks/Dry spaces lines
    - : Oil tanks lines (flash point > 60 °C)
  - 8) Miscellaneous
    - : Service air (non-essential) and Brine
    - : Steam
- (2) Limitation :
- 1) These mechanical joints are not to be used for Class I piping system.
  - 2) These mechanical joints are to be mounted in accordance with the manufacturer's instructions.
  - 3) These mechanical joints are not to include any components which readily deteriorate in case of fire, they are to be of approved fire resistant type as required for slip-on joints.
  - 4) These mechanical joints, which in the event of damage could cause fire or flooding, are not to be used in piping sections directly connected to the sea openings or tanks containing flammable fluids.
  - 5) Piping in which these mechanical joints are fitted is to be adequately adjusted, aligned and supported. Supports or hangers are not to be used to force alignment of piping at the point of connection.
  - 6) These mechanical joints are not used in those systems where pulsation other than water hammer is expected.
  - 7) These mechanical joints are not to be used in pipelines in cargo holds, tanks, and other spaces which are not easily accessible. Application of these joints inside tanks may be permitted only for the same media that is in the tanks.
  - 8) Individual Product Certification is required where the mechanical joints are intended to be used for Class II piping system.

<End of Certificate>