

# Approval Certificate



This is to certify, that the undernoted products have been approved in accordance with the relevant requirements of the GL Approval System.

Certificate No. 98 950 - 97 HH

Company Rich. Klinger Dichtungstechnik GmbH & Co. KG

Am Kanal 8-10  
2352 Gumpoldskirchen, AUSTRIA

Product FLAT GASKETS - ASBESTOS FREE

Type KLINGERTop-chem-2003 / 2005 / 2006

Technical Data /  
Application

#### TECHNICAL DATA (continued)

Type	KLINGERTop-chem-2003
Density	1.7 [g/cm <sup>3</sup> ]
Compressibility	16% { ASTM F 36 J }
Recovery	=/ > 35% { ASTM F 36 J }
Tightness	0.1 [ml/min] { DIN 3535-6 }
Klinger cold / hot compression, 25 MPa	thickness decrease at 23 [°C]: 9% thickness decrease at 250 [°C]: 38%

#### RANGE OF APPLICATION

The gaskets may be used under consideration of the mechanical and physical properties as well as the chemical resistance as follows:

- Ship's piping systems including cargo lines on Chemical and Gas Tankers carrying propylene oxide and mixtures of ethylene / propylene oxide.
- Maximum allowable working pressure and temperature according to the specification of the manufacturer.

Approval Standard • ASTM and DIN

Documents • Test Reports  
• Technical Data  
• Audit Report

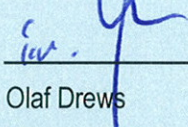
Remarks • TECHNICAL DATA, PRODUCTION PLACES and REMARKS / LIMITATIONS  
see page 2.

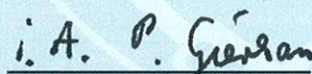
Valid until 2018-11-20

File No. XI.B.03

**Germanischer Lloyd**

Hamburg, 2014-01-08

  
Olaf Drews

  
Peter Gierhan

# Approval Certificate



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## TECHNICAL DATA

Type	KLINGERtop-chem-2005
Density	2.2 [g/cm <sup>3</sup> ]
Compressibility	3% { ASTM F 36 J }
Recovery	=/> 40% { ASTM F 36 J }
Tightness	0.2 [ml/min] { DIN 3535-6 }
Klinger cold / hot compression, 50MPa	thickness decrease at 23 [°C]: 10% thickness decrease at 250 [°C]: 30%

Type	KLINGERtop-chem-2006
Density	2.9 [g/cm <sup>3</sup> ]
Compressibility	4% { ASTM F 36 J }
Recovery	=/> 40% { ASTM F 36 J }
Tightness	0.1 [ml/min] { DIN 3535-6 }
Klinger cold / hot compression, 50 MPa	thickness decrease at 23 [°C]: 10% thickness decrease at 250 [°C]: 40%

## PRODUCTION PLACES

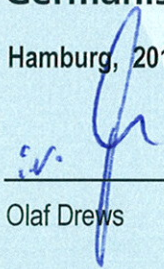
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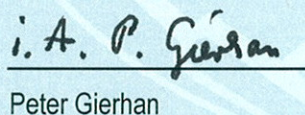
## REMARKS / LIMITATIONS

The selection of the gaskets for the corresponding application and the appropriate installation is to be in acc. with the instructions of the manufacturer.

**Germanischer Lloyd**

Hamburg, 2014-01-08

  
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