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/cm³]
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 / propylen 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

i.V.

Olaf Drews

i. A. P. Gierhan

Peter Gierhan

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TECHNICAL DATA

Type	KLINGERtop-chem-2005
Density	2.2 [g/cm³]
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/cm³]
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

Rich. Klinger Dichtungstechnik GmbH & Co. KG
Am Kanal 8-10
2352 Gumpoldskirchen
AUSTRIA

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

i.V.
Olaf Drews

i.A. P. Gierhan
Peter Gierhan