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.	**98 953 - 97 HH**
Company	**Rich. Klinger Dichtungstechnik GmbH & Co. KG** **Am Kanal 8-10** **2352 Gumpoldskirchen, AUSTRIA**
Product	**FLAT GASKETS - ASBESTOS FREE**
Type	**KLINGERSIL C-4430 / 4433 / 4409 / 44XL**
Technical Data / Application	**TECHNICAL DATA (continued)**

Type	**KLINGERSIL C-4430**
Density	**1.75 [g/cm³]**
Compressibility	**9% { ASTM F 36 J }**
Recovery	**=/> 50% { ASTM F 36 J }**
Tightness	**<1.0 [ml/min] { DIN 3535-6 }**
Soluble chloride content	**150 [ppm]**
Klinger cold / hot compression, 50 MPa	**thickness decrease at 23 [°C]: 8%** **thickness decrease at 300 [°C]: 11%**

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 excluding 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.A.

Olaf Drews

i. A. P. Gierhan

Peter Gierhan

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TECHNICAL DATA

Type	KLINGERSIL C-4433
Density	1.8 [g/cm³]
Compressibility	7% { ASTM F 36 J }
Recovery	=/> 60% { ASTM F 36 J }
Tightness	0.2 [ml/min] { DIN 3535-6 }
Soluble chloride content	150 [ppm]
Klinger cold / hot compression, 50 MPa	thickness decrease at 23 [°C]: 7% thickness decrease at 300 [°C]: 8%

Type	KLINGERSIL C-4409
Density	2.0 [g/cm³]
Compressibility	7% { ASTM F 36 J }
Recovery	=/> 50% { ASTM F 36 J }
Soluble chloride content	150 [ppm]
Klinger cold / hot compression, 50 MPa	thickness decrease at 23 [°C]: 10% thickness decrease at 300 [°C]: 10%

Type	KLINGERSIL C-44XL
Density	1.6 [g/cm³]
Compressibility	10% { ASTM F 36 J }
Recovery	=/> 55% { ASTM F 36 J }
Klinger cold / hot compression, 50 MPa	thickness decrease at 23 [°C]: 12% thickness decrease at 300 [°C]: 19%

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

Olaf Drews

i. A. P. Gierhan

Peter Gierhan