

# 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. 47 704 - 03 HH

Company Rich. Klinger Dichtungstechnik GmbH & Co. KG

Am Kanal 8 - 10  
2352 Gumpoldskirchen, AUSTRIA

Product FLAT GASKETS - ASBESTOS FREE

Type KLINGERSIL C-4408 / C-4500 / 4509 / 4530

Technical Data /  
Application

#### TECHNICAL DATA

Type	KLINGERSIL C-4408
Density	1.9 [g/cm <sup>3</sup> ]
Compressibility	8% { ASTM F 36 J }
Recovery	=/ > 50% { ASTM F 36 J }
Tightness	2.5 [ml/min] { DIN 3535-6 }
Soluble chloride content	150 [ppm]
Klinger cold / hot compression, 50 MPa	thickness decrease at 23 [°C]: 10% thickness decrease at 300 [°C]: 22%

#### 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 / 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

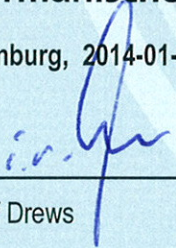
Remarks • TECHNICAL DATA, PRODUCTION PLACES and REMARKS / LIMITATIONS  
see page 2.

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	KLINGERSIL C-4500
Density	1.4 [g/cm <sup>3</sup> ]
Compressibility	12% { ASTM F 36 J }
Recovery	=/> 60% { 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]: 10% thickness decrease at 300 [°C]: 15%

Type	KLINGERSIL C-4509
Density	2.0 [g/cm <sup>3</sup> ]
Compressibility	12% { ASTM F 36 J }
Recovery	=/> 70% { ASTM F 36 J }
Soluble chloride content	150 [ppm]
Klinger cold / hot compression, 50 MPa	thickness decrease at 23 [°C]: 9% thickness decrease at 300 [°C]: 7%

Type	KLINGERSIL C-4530
Density	1.55 [g/cm <sup>3</sup> ]
Compressibility	10% { ASTM F 36 J }
Recovery	=/> 55% { ASTM F 36 J }
Tightness	< 0.1 [mg/sm] { DIN 28090-2 }
Klinger cold / hot compression, 50 MPa	thickness decrease at 23 [°C]: 10% thickness decrease at 300 [°C]: 15%

## PRODUCTION PLACES

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

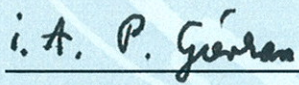
## REMARKS / LIMITATIONS

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

  
Peter Gierhan