



**Service
& Commissioning**
by Navim Group

BULLETIN

Technical Bulletin Nr. TB-002-26

Applies to:

All types of davits and side doors

Description of the technical issue:

Subject: Prohibition of Acid-Based Products for
Cleaning Hydraulic Cylinder Rods

Reference: Hydraulic Cylinders – Rod Seal Protection

Date: 18/02/2026

TECHNICAL



Applies to:

All types of davits and side doors

Description:

Subject: Prohibition of Acid-Based Products for Cleaning Hydraulic Cylinder Rods

Reference: Hydraulic Cylinders – Rod Seal Protection

Date: 18/02/2026

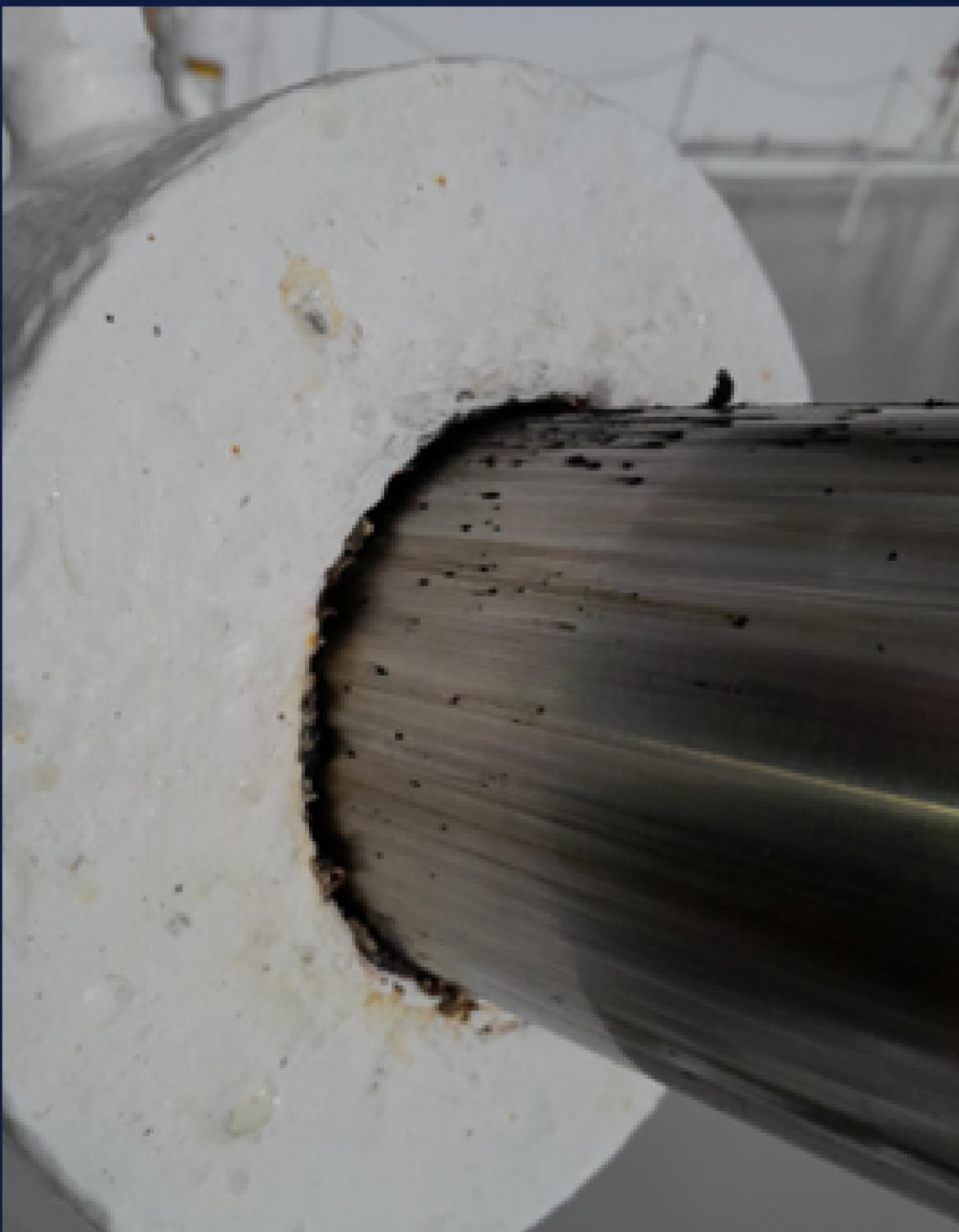


Figure 1 - Hydraulic Cylinder wiper seal damage

Technical Background

Hydraulic cylinders are equipped with:

- NBR (Nitrile Butadiene Rubber) wiper seals
- Dynamic rod seals
- Guide rings and scraper elements

NBR seals are designed to operate in:

- Mineral oil environments
- Neutral pH conditions
- Presence of solid contaminants

They are not compatible with:

- Inorganic acids
- Acid-based descaling agents
- Products with low pH
- Chemical rust converters (i.e. NCH MA X-Rust Gel)

Even short-term exposure to acidic products may cause:

- Elastomer swelling
- Shore hardness reduction
- Loss of sealing lip preload
- Micro-cracking
- Premature degradation of wiping function
- Delayed oil leakage during operation

Damage may not be immediately visible and can appear after the cylinder returns to service.

Technical Background

Hydraulic cylinders are equipped with:

- NBR (Nitrile Butadiene Rubber) wiper seals
- Dynamic rod seals
- Guide rings and scraper elements

NBR seals are designed to operate in:

- Mineral oil environments
- Neutral pH conditions
- Presence of solid contaminants

They are not compatible with:

- Inorganic acids
- Acid-based descaling agents
- Products with low pH
- Chemical rust converters (i.e. NCH MA X-Rust Gel)

Even short-term exposure to acidic products may cause:

- Elastomer swelling
- Shore hardness reduction
- Loss of sealing lip preload
- Micro-cracking
- Premature degradation of wiping function
- Delayed oil leakage during operation

Damage may not be immediately visible and can appear after the cylinder returns to service.

Operational Prohibition

It is strictly forbidden to apply on hydraulic cylinders:

- Acid-based rust removal gels
- Descaling chemicals
- Rust converters
- Products containing phosphoric acid, hydrochloric acid, or similar acids
- Any product with acidic pH

The application of such products may compromise seal integrity and cylinder reliability.

Responsibility

The use of unauthorized chemical products on hydraulic cylinders:

- May compromise system reliability
- May invalidate warranty
- May generate maintenance liability

NAVALIMPIANTI

Salita Guardia, 60 A
6014 Ceranesi (GE) - Italy
Phone + 39 010 7237 1
Fax +39 010 710 173
Email navim@navim.com

Via Terza Armata, 18
34074 Monfalcone (Go) - Italy
Phone +39 0481 490 111
Fax +39 0481 410 659
Email navimmo@navim.com

Via dei Pescatori Z.I. Porto
16129 Genova - Italy
Phone +39 010 246 1013
Fax +39 010 247 1030
Email service@navim.com
Mobile +39 348 330 31 69

NAVALIMPIANTI CHINA

Unit 1101 A, Xin Cheng Mansion
Room 2012,
No. 936 North Shaanxi Road,
200040 Shanghai, P. R. of China
Phone +86 21 6258 7971
Email navimchina@navim.com

NAVALIMPIANTI HONG KONG

Flat/RM A, 12 Floor,
Kiu Fu Commercial Building
Hong Kong
Phone +86 21.6258.7116
Fax +86 21.6258.7169
Email: navimhk@navim.com

NAVALIMPIANTI PULA

Mletacka, 12
52100 Pula - Hrvatska
Phone +385 52 216 590
Fax +385 52 216 590
Email navimpula@navim.com

NAVALIMPIANTI SINGAPORE

50 Tuas Avenue11
#02-40 Tuas Lot
Singapore 639107
Phone +65 6659 8997 / +65 6659 8929
Fax +65 6659 8870
Email service-sea@navim.com

NAVALIMPIANTI USA

900 N.W. 10th Avenue
Fort Lauderdale FL 33311 - USA
Phone +1 954 585 7041
Fax +1 954 585 7042
Email navimusa@navim.com

TECNIMPIANTI

Z. I. Strada Consortile Fiume Torto
90018 Termini Imerese (PA) - Italy
Phone +39 091 814 0283
Email info@tecnimpiantispa.com
Mobile +39 348 320 66 50

TECNIMPIANTI LIVORNO

Via Edda Fagni 45
57126 Livorno
Phone +39 0586 954086
Fax +39 0586 953736
Email livorno@tcimp.com

TECNIMPIANTI ANTWERP

Havinkbeekstraat 22
9130 Vervebroek Belgium
Phone +32 3 568 01 27
Fax +32 3 253 11 39

NAVIM FRANCE