Hatch cover load transmission

Small pads play big part in structural performance
Function of bearing pads
Bearing pads serve the hatch cover system in a number of ways. They
• transmit the vertical forces from the hatch cover into the coaming structure
• maintain the correct sealing position of the hatch covers
• allow for relative movement between the hatch covers and coaming caused by flexible hull deformations

MacGregor’s portfolio of bearing pads is comprehensive, ranging from a traditional steel-to-steel type to the most advanced solutions using the latest materials and technology. MacGregor offers tested and proven bearing pad solutions that mean trouble-free operations and safe cargo handling for all types of vessels.

Original components last longer
To obtain the required safety margins and to guarantee trouble-free operational lifetime, the hatch cover system must be maintained as instructed and critical spare part components have to be of original design.
If alternative spare components are used, it is important that not only the dimensions should match, but also that their performance fulfils the same criteria required of the original component. With MacGregor original bearing pads, the component lifespan, reliability and spares availability support your operations in a cost-efficient way.

Flexipad
• Sandwich structure of steel and rubber
• No special mating surface needed
• No sliding – flexing structure for movement
• No wear

Polypad
• Self-lubricating plastic pads in a steel holder
• Special stainless steel mating surface
• Constant sliding properties
• Standard sizes

Lubripad
• Lubricant bronze pads in a steel holder
• Special stainless steel mating surface
• Silent operation
• Standard sizes
Comparison of different pad types

<table>
<thead>
<tr>
<th>Feature</th>
<th>Flexipad</th>
<th>Polypad</th>
<th>Lubripad</th>
<th>Unipad</th>
<th>Steelpad</th>
<th>Fixpad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long lifetime</td>
<td>• • •</td>
<td>• •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Easy installation</td>
<td>• • •</td>
<td>• •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Corrosion resistance</td>
<td>• • •</td>
<td>• •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Prevents overcompression of seals</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Low wear of mating surface</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Low horizontal forces</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Silent function</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Resistance to dirt</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Fire resistance</td>
<td>•</td>
<td>• •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Adapts to edge loads</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Tolerates rough handling</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Low purchase price</td>
<td>• •</td>
<td>• •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Quick and easy replacement</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
<tr>
<td>Profitable long-term investment</td>
<td>• • •</td>
<td>• • •</td>
<td>• • •</td>
<td>• •</td>
<td>• •</td>
<td>•</td>
</tr>
</tbody>
</table>

Unipad
- Woven PTFE-coated pads in a steel holder
- Special stainless steel mating surface
- Two standard sizes
- No wear

Steelpad
- Steel pads in a steel holder
- Special stainless steel mating surface
- Two standard sizes

Fixpad
- Welded steel pad
- Special stainless steel mating surface

Conventional solutions
Sometimes robust and low-cost solutions are reasonable. Fixed and replaceable steel bearing pads are used in cases where there are no special demands on bearing pad performance. Steel bearing pads have to be replaced several times during a ship’s lifetime.
Wherever needed, you can rely on our support.

MacGregor shapes the offshore and marine industries by offering world-leading engineering solutions and services with a strong portfolio of MacGregor, Hatlapa, Porsgrunn, Pusnes and Triplex brands. Shipbuilders, owners and operators are able to optimise the lifetime profitability, safety, reliability and environmental sustainability of their operations by working in close cooperation with MacGregor.

MacGregor solutions and services for handling marine cargoes, vessel operations, offshore loads, crude/LNG transfer and offshore mooring are all designed to perform with the sea.

MacGregor is part of Cargotec (Nasdaq Helsinki: CGCBV).

Published by MacGregor. Copyright © MacGregor February 2017. All rights reserved. No part of this publication may be reproduced, stored, photocopied, recorded or transmitted without permission of the copyright owner.

MacGregor Finland Oy
drycargosales@macgregor.com
macgregor.service@macgregor.com (spare parts)
www.macgregor.com