heligrid HELICOPTER LANDING GRID
Heligrid
The purpose of the landing grid is to secure a helicopter to the deck of a vessel, using a harpoon or decklock. During landing the helicopter connects a harpoon into the grid and pulls itself to the deck. In rough sea the helicopter remains stable and fixed to the deck.

Design and construction
The grid plate is designed to have at least the strength to take the upwards force equal to the breaking force of the harpoon or decklock plus a 10 percent safety margin. The harpoon or decklock system has a max pull of 80 kN which keeps operational within the following limits.

### Ship movement

<table>
<thead>
<tr>
<th>Conditions</th>
<th>roll</th>
<th>pitch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static (Harpoon)</td>
<td>30°</td>
<td>-</td>
</tr>
<tr>
<td>Static (Harpoon + Chain lashings)</td>
<td>30°</td>
<td>-</td>
</tr>
</tbody>
</table>

### Relative wind

<table>
<thead>
<tr>
<th>ahead</th>
<th>abeam</th>
<th>astern</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 knots</td>
<td>50 knots</td>
<td>50 knots</td>
</tr>
</tbody>
</table>

Heavy wind-force [10]
89-102 kilometer/hour
@ 10 minutes

65 knots
Hurricane wind-force [12]
> 117 kilometer/hour
@ 10 minutes

### Outstanding safety by heavy weather and rough seas

### Supplementary requirements (STANAG 1276)

**Seawater conditions**
- Maximum temperature: 29 degrees Celsius
- Minimum temperature: -2 degrees Celsius

**Air conditions**
- Outside:
  - Maximum temperature: +32 degrees Celsius
  - Minimum temperature: -12 degrees Celsius
  - Relative humidity: 80 percent @ 32 degrees Celsius

**Delivery condition**
- Grid plate of high tensile stainless steel and according NATO requirements
- Substructure for support grid plate included all attachment parts
- Interface information for mounting substructure on ship deck
- Cover plates (optional, various opportunities)
- Included head assembly drawing, calculations, manual

**Design**
- Design of the landing grid in accordance with STANAG 1276
- NATO standard grid plate

**Application**
- Compatible with harpoon, deck lock systems. The landing grid is designed
- for various helicopter suitable for NH90, Bell 206 / 407, Eurocopter EC-120 / 145
<table>
<thead>
<tr>
<th>Type</th>
<th>HLS 3</th>
<th>HLS 6</th>
<th>HLS 10</th>
<th>HLS HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter [mm]</td>
<td>2750</td>
<td>2750</td>
<td>2750</td>
<td>On Request</td>
</tr>
<tr>
<td>Weight [ton]</td>
<td>1.6</td>
<td>1.8</td>
<td>2.0</td>
<td>3</td>
</tr>
<tr>
<td>MTOW [Kg]</td>
<td>3000</td>
<td>6000</td>
<td>10000</td>
<td>2</td>
</tr>
<tr>
<td>Factor of safety (FOS)</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Helicopter</td>
<td>Bell 206 B3 / L4 Bell 407/427</td>
<td>Agusta Grand Bell 430</td>
<td>Eurocopter AS 365/ AS 565</td>
<td>Agusta Apache Eurocopter Superpuma Sirkorsky Sea King Agusta NH 90 (industrie)</td>
</tr>
</tbody>
</table>

MTOW = Maximum Take Off Weight (own empty weight + passenger & baggage + cargo + total fuel)
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