NEW!
Amendment of the Dynagrip
Channel Product Range HZA

The new HALFEN channel HZA 53/34 Dynagrip completes the existing product range for high performance fixings HALFEN HZA. The new HZA 53/34 Dynagrip offers even higher loading capacities. The HZA 53/34 as well as the known HZA 29/20 and 38/23 Dynagrip guarantee a positive locking loading capacity due to a toothing in the longitudinal direction of the channel. Thus, loads into all directions can be safely and properly taken - even in the longitudinal direction of the channel loads up to FR,d = 30,8 kN are possible.

At a glance: Product range for high performance fixings

<table>
<thead>
<tr>
<th>Product Range</th>
<th>Load Range F_R,d</th>
<th>Load Amplitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>HZA 29/20</td>
<td>11,2 kN</td>
<td>up to 2,0 kN</td>
</tr>
<tr>
<td>HZA 38/23</td>
<td>16,8 kN</td>
<td>up to 3,0 kN</td>
</tr>
<tr>
<td>HZA 53/34</td>
<td>30,8 kN</td>
<td>up to 6,0 kN</td>
</tr>
</tbody>
</table>

Application examples

- Curtain wall with emergency balcony
- Pipe support
- Connection steel girder to concrete column
Dimensions

Available lengths and number of anchors

<table>
<thead>
<tr>
<th>HZA 53/34 - Standard lengths</th>
<th>Length [mm] / Number of anchors</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 / 2</td>
<td>350 / 3 550 / 3 800 / 4</td>
</tr>
<tr>
<td>1050 / 5</td>
<td>3030 / 13 6070 / 25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HZA 53/34 - Fixed standard lengths</th>
<th>Length [mm] / Number of anchors</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 2050 / 9</td>
<td>1300 / 6 1550 / 7 1800 / 8</td>
</tr>
<tr>
<td>3000 / 14</td>
<td>2300 / 10 2550 / 11 2800 / 12</td>
</tr>
<tr>
<td>4050 / 17</td>
<td>3300 / 14 3550 / 15 3800 / 16</td>
</tr>
<tr>
<td>5050 / 21</td>
<td>4300 / 18 4550 / 19 4800 / 20</td>
</tr>
<tr>
<td>6000 / 24</td>
<td>5300 / 22 5550 / 23 5800 / 24</td>
</tr>
</tbody>
</table>

Product identification

inside, channel back

on models with full foam filler and combination strip filler HKR also on channel side

Anchor Placement:

Standard cut lengths for the HALFEN cast-in channel DYNAGRIP system result from positioning the anchors at the same distances.

Channel material:
S275 JR (1.0044)
Stainless steel
1.4401/1.4404/1.4571

Preliminary standard version with welded black anchors.
On request deliverable with stainless steel welded anchors.

Anchor type

Weld-on anchor
I 128 x 30

Bolt anchor with hexagonal head

Nailing hole
HALFEN CAST-IN CHANNEL HZA 53/34 DYNAGRI
Product Overview

HALFEN bolt HZS 53/34

Product identification

- Nomenclature on bolt head
- Marking notches at shank tip

HALFEN bolt HZS - dimensions and grade

<table>
<thead>
<tr>
<th>Bolt type</th>
<th>Bolt diameter (mm)</th>
<th>Grade 8.8 bolt length (mm)</th>
<th>Grade A4-70 bolt length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HZS 53/34 M20</td>
<td>65, 100</td>
<td></td>
<td>65, 100</td>
</tr>
<tr>
<td>HZS 53/34 M16</td>
<td>60, 100</td>
<td></td>
<td>60, 100</td>
</tr>
</tbody>
</table>

Example order code for bolts:

Bolt prefix
Finish and grade (GV-S 8.8)
(HV-S © electroplated with additional special coating)

Example order code for channels:

Channel prefix
Material/finish (FV)
Combination strip filler (HKR)
(FV © hot-dip galvanised)

Text for invitation of tenders

1. HALFEN cast-in channels
1.1 HALFEN cast-in channels type HZA Dynagrip
HALFEN cast-in channels HZA__, hot-dip galvanised (FV) with combination strip filler (KF), suitable for adjustable connections to concrete, channel length ______ mm, design resistance $F_{Rd}$ = ______ kN in all directions, up to ______ kN dynamic loading. Deliver and install according to the HALFEN assembly instructions.

2. HALFEN bolts
2.1 HALFEN bolts type HZS
HALFEN bolt toothed HZS______, belonging to correspondent cast-in channel HZA, electroplated with additional special coating, including nut. Deliver and install according to the HALFEN assembly instructions.

© 2010 HALFEN · TiHZA 10 · www.halfen.com
Load capacities and minimum edge distances

Design resistance \( F_{Rd} \)

\( F_{Rd} \) with simultaneous loading in all directions

Concrete \( \geq C20/25 \)

To check:

\[
F_{Rd} = \sqrt{N_{Ed}^2 + V_{Ed}^2 + V_{Ed}^2} \leq F_{Rd}
\]

Single loads

- \( b_i \geq 250 \)
- \( p_i = 100 \)

Load pairs

- \( b_i \geq 250 \)
- \( p_i = 150 \)
- \( p_i = 200 \)
- \( p_i = 250 \)

<table>
<thead>
<tr>
<th>HZA profile 53/34</th>
<th>( F_{Rd} ) [kN]</th>
<th>( F_{Rd} ) [kN]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( b_i \geq 250 )</td>
<td>( p_i = 200 )</td>
</tr>
<tr>
<td></td>
<td>( 30.8 )</td>
<td>( 19.25 )</td>
</tr>
<tr>
<td></td>
<td>( 30.8 )</td>
<td>( 22.0 )</td>
</tr>
<tr>
<td></td>
<td>( 30.8 )</td>
<td>( 25.7 )</td>
</tr>
<tr>
<td></td>
<td>( 30.8 )</td>
<td>( 30.8 )</td>
</tr>
</tbody>
</table>

1) Intermediate values may be linearly interpolated
2) Concerning profiles from stainless steel: in longitudinal direction 26.6 kN

Minimum edge distances and spacings

<table>
<thead>
<tr>
<th>Bolt diameter (mm)</th>
<th>( a_r )</th>
<th>( a_a )</th>
<th>( a_e )</th>
<th>( a_{r1} )</th>
<th>( a_{s1} )</th>
<th>( d )</th>
</tr>
</thead>
<tbody>
<tr>
<td>HZA 53/34</td>
<td>200</td>
<td>400</td>
<td>175</td>
<td>350</td>
<td>162</td>
<td>+c</td>
</tr>
</tbody>
</table>

\( \) applies when using the 128-anchor
\( c = \) min concrete cover (specified by others)

HALFEN bolt HZA 53/34 - Tightening torque and Load capacities

<table>
<thead>
<tr>
<th>Bolt diameter (mm)</th>
<th>Tightening torque (Nm)</th>
<th>Moment capacity ( M_{Rd} ) (Nm)</th>
<th>Design value ( F_{Rd} )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade 8.8</td>
<td>Grade 8.8</td>
<td>Grade 8.8</td>
</tr>
<tr>
<td>M16</td>
<td>A4-70</td>
<td>A4-70</td>
<td>A4-70</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>155.4</td>
<td>50.5</td>
</tr>
<tr>
<td></td>
<td>350</td>
<td>303.0</td>
<td>79.0</td>
</tr>
</tbody>
</table>

Load amplitude for load cycles \( N = 2 \times 10^6 \)

\[
\Delta F = F_o - F_u \text{ in tension}
\]

- \( \Delta F \) for \( \text{St A4} \)
- \( \text{Permissible bolts HZA 53/34} \)

| HZA 53/34         | \( 6.0 \text{ kN} \) | \( 4.0 \text{ kN} \) | \( \text{M16, M20} \) |

Halfen GmbH

Liebigstr. 14 - 40764 Langenfeld - GERMANY
Tel.: +49 - (0)2173 / 970-9020
Fax: +49 - (0)2173 / 970-450
E-Mail: ict.ans@halfen.com
www.halfen.com

Das Qualitätsmanagementsystem von Halfen GmbH ist für die Standorte in Deutschland, in der Schweiz und in Polen zertifiziert nach DIN EN ISO 9001:2008, Zertifikat-Nr. QS-281 HH.

The Quality Management System of Halfen GmbH is certified for the locations in Germany, Switzerland and Poland according to DIN EN ISO 9001:2008, Certificate No. QS-281 HH.