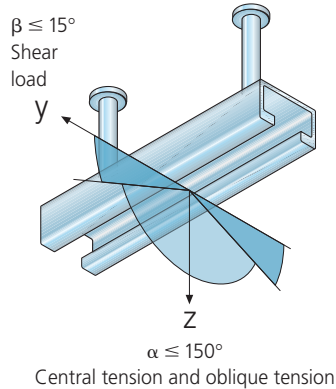


Stress ranges and load spacings in accordance with the Building Approval

Stress ranges of the anchor channels JTA

at right angles to the channel longitudinal axis

JORDAHL® anchor channels JTA are able to absorb central tension, oblique tension and shear load in accordance with the stress ranges illustrated. In this case, the resultant load must not exceed the permissible loads according to the table alongside.



$$\sqrt{F_z^2 + F_y^2} \leq \text{perm. } F$$

For dynamic loads, the following anchor channels are approved:

- JTA W 74/48
- JTA W 53/34
- JTA W 50/30
- JTA W 40/22

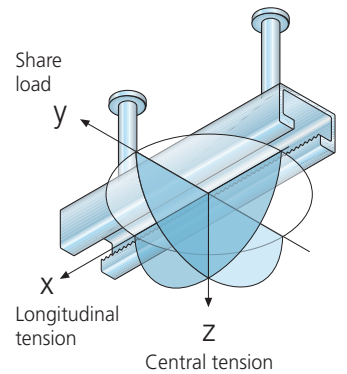
If dimensioned in accordance with EC2, the design value for profile and bolt is to be applied as follows:
 $F_{Rd} = \text{perm. } F \times 1.4$

Building Approval
JTA: Z-21.4-151

Stress ranges of the anchor channels JXA and JZA

in all directions

In conjunction with toothed bolts, JORDAHL® anchor channels are able to absorb loadings in all directions. They are approved by the German Institute for Structural Engineering for loads in the channels longitudinal direction. In the event of simultaneous stressing in a plurality of directions, the resultant load must not exceed the permissible loads.



$$\sqrt{F_x^2 + F_z^2 + F_y^2} \leq \text{perm. } F$$

For dynamic loads, the following anchor channels are approved:

- JXA W 38/23
- JXA W 29/20

Building Approval:
JXA: Z-21.4-1690
JZA: Z-21.4-741

Load arrangement

Figure a

Single loads JTA, JZA, JXA

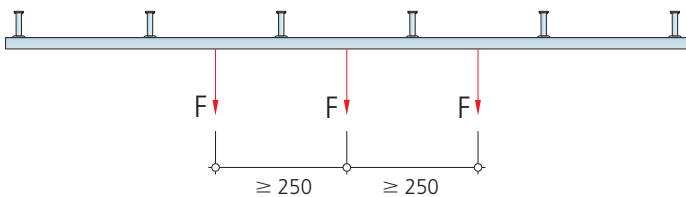


Figure b

Load pairs JTA, JZA

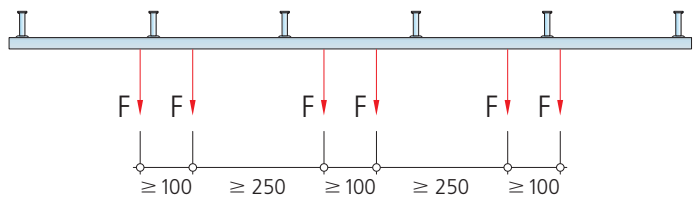


Figure c

Load pairs JZA, special case only for pure longitudinal (x) tension⁶⁾

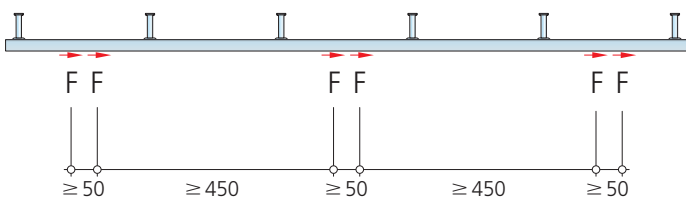
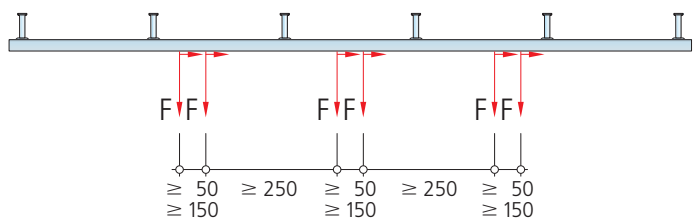


Figure d

Load pairs JXA in all directions⁷⁾



Permissible loads on the anchor channels *in accordance with the Building Approval*

For all concrete strength classes $\geq C20/25$ (B25)¹⁾²⁾

		perm. F [kN] ³⁾ F_{Rd} [kN]									
		Stress at right angles to the channel longitudinal axis					Stress at channel longitudinal axis				
		Central tension (z) and oblique tension $\alpha \leq 150^\circ$					Shear load (y) $\beta \leq 15^\circ$			Longitudinal tension (x)	
		Single loads		Load pairs			Single loads		Load pairs	Single loads	Load pairs
		Figure a		Figure b			Figure a		Figure b	Figure a	Figure b
Channel type	Associated bolts ⁴⁾	100	150 bis 250	> 250	200 bis 250	> 250	100	≥ 150	≥ 200	≥ 100	≥ 200
JTA: Z-21.4-151 JZA: Z-21.4-741 JXA: Z-21.4-1690											
		3.5 <i>4.9</i>	3.5 <i>4.9</i>	3.0 <i>4.2</i>	3.0 <i>4.2</i>	2.0 <i>2.8</i>	3.5 <i>4.9</i>	3.5 <i>4.9</i>	3.0 <i>4.2</i>	-	-
JTA K 38/17	JH M12-16	7.0 <i>9.8</i>	7.0 <i>9.8</i>	4.5 ⁵⁾ <i>6.3</i>	4.5 <i>6.3</i>	3.0 <i>4.2</i>	8.0 <i>11.2</i>	8.0 <i>11.2</i>	4.5 <i>6.3</i>	-	-
JTA W 40/22 JTA K 40/25	JC M16	8.0 <i>11.2</i>	8.0 <i>11.2</i>	6.0 <i>8.4</i>	6.0 <i>8.4</i>	4.0 <i>5.6</i>	-	10.0 <i>14.0</i>	6.0 <i>8.4</i>	-	-
JTA W 50/30 JTA K 50/30	JB M16-20	12.0 <i>16.8</i>	12.0 <i>16.8</i>	10.0 <i>14.0</i>	7.0 <i>9.8</i>	5.0 <i>7.0</i>	-	12.0 <i>16.8</i>	7.0 <i>9.8</i>	-	-
JTA W 53/34 JTA K 53/34	JB M20	-	22.0 (25.0) <i>30.8 (35.0)</i>	22.0 (25.0) <i>30.8 (35.0)</i>	11.0 (12.5) <i>15.4 (17.5)</i>	11.0 (12.5) <i>15.4 (17.5)</i>	-	22.0 (25.0) <i>30.8 (35.0)</i>	11.0 (12.5) <i>15.4 (17.5)</i>	-	-
JTA W 54/43	JE M24	-	27.0 (32.0) <i>37.8 (44.8)</i>	27.0 (32.0) <i>37.8 (44.8)</i>	13.5 (16.0) <i>18.9 (22.4)</i>	13.5 (16.0) <i>18.9 (22.4)</i>	-	27.0 (32.0) <i>37.8 (44.8)</i>	13.5 (16.0) <i>18.9 (22.4)</i>	-	-
JTA W 74/48 JTA K 72/48	JA M24-30	-	27.0 (32.0) <i>37.8 (44.8)</i>	27.0 (32.0) <i>37.8 (44.8)</i>	13.5 (16.0) <i>18.9 (22.4)</i>	13.5 (16.0) <i>18.9 (22.4)</i>	-	27.0 (32.0) <i>37.8 (44.8)</i>	13.5 (16.0) <i>18.9 (22.4)</i>	-	-
JZA K 41/22	JZS M12-16	5.0 <i>7.0</i>	5.0 <i>7.0</i>	5.0 <i>7.0</i>	3.5 <i>4.9</i>	3.5 <i>4.9</i>	5.0 <i>7.0</i>	5.0 <i>7.0</i>	3.5 <i>4.9</i>	5.0 <i>7.0</i>	3.5 ⁶⁾ <i>4.9</i>
JXA W 29/20	JXD M12	8.0 <i>11.2</i>	8.0 <i>11.2</i>	8.0 <i>11.2</i>	4.5-6.4 ⁷⁾ <i>6.3-9.0</i>	Figure d	8.0 <i>11.2</i>	8.0 <i>11.2</i>	4.5-6.4 ⁷⁾ <i>6.3-9.0</i>	Figure d	8.0 <i>11.2</i>
JXA W 38/23	JXH M12-16	-	12.0 <i>16.8</i>	12.0 <i>16.8</i>	6.7-8.6 ⁷⁾ <i>9.4-12.0</i>	Figure d	-	12.0 <i>16.8</i>	6.7-8.6 ⁷⁾ <i>9.4-12.0</i>	Figure d	12.0 <i>16.8</i>

- When anchored in concrete grade C12/15 \triangle B15, the permissible loads for C20/25 \triangle B25 are to be reduced by a factor 0.7.
- When anchor channels type JTA are used in lightweight concrete (dense-jointed) LC25/28 \triangle LB25 – expanded clay, expanded shale or pumice as additive – the permissible loads for C20/25 \triangle B25 are to be reduced by a factor 0.67.
- Bracketed values apply when C30/37 \triangle B35 is used and are permissible only when the expansion of the concrete transversely to the channels longitudinal axis is prevented by reinforcement (a rod ϕ BSt 500 S, $d_s \geq 8$ mm at the channel ends) or by transverse pressure.

- When smaller bolts are used, the permissible load on the bolts must not be exceeded. Permissible bolt loads will be found on the respective datasheets and page 40.
- Special design K 38/17-200 (anchor spacing 200 mm), perm. F = 7.0 kN.
- The permissible load can be increased to 5.0 kN if loading occurs only in the channel longitudinal direction (x) and the load arrangement corresponds to figure c.
- First value for load pairs spacing ≥ 50 mm, second value for load pairs spacing ≥ 150 mm; intermediate values may be interpolated.