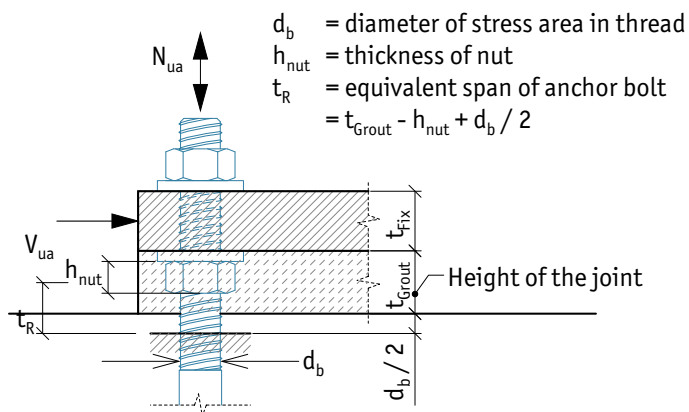


## Resistances



Design values for tensile or compressive resistance of individual HPM Rebar Anchor Bolt. (Steel strength). Anchor bolt material grade 60 according to standard ASTM A615M.

|                 |      | HPM 16<br>ACI ASTM | HPM 20<br>ACI ASTM | HPM 24<br>ACI ASTM | HPM 30<br>ACI ASTM | HPM 39<br>ACI ASTM |
|-----------------|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| $\phi N_{sa}$   | [kN] | 63                 | 97                 | 141                | 224                | 390                |
| $\phi N_{sa,0}$ |      |                    |                    |                    |                    |                    |

Design values for tensile or compressive resistance of individual HPM Rebar Anchor Bolt. (Steel strength). Anchor bolt material B500B according to standard EN 10080.

|                 |      | HPM 16 ACI EN | HPM 20 ACI EN | HPM 24 ACI EN | HPM 30 ACI EN | HPM 39 ACI EN |
|-----------------|------|---------------|---------------|---------------|---------------|---------------|
| $\phi N_{sa}$   | [kN] | 55            | 86            | 125           | 199           | 346           |
| $\phi N_{sa,0}$ |      |               |               |               |               |               |

Design values for tensile or compressive resistance of individual HPM Rebar Anchor Bolt. (Steel strength). Anchor bolt material HRB500 according to standard GB 1499.

|                 |      | HPM 16 ACI GB | HPM 20 ACI GB | HPM 24 ACI GB | HPM 30 ACI GB | HPM 39 ACI GB |
|-----------------|------|---------------|---------------|---------------|---------------|---------------|
| $\phi N_{sa}$   | [kN] | 63            | 97            | 141           | 224           | 390           |
| $\phi N_{sa,0}$ |      |               |               |               |               |               |

## HPM Rebar Anchor Bolt, ACI version

The resistances of shear are determined in reference to ACI 318M-11 for final stage and AISC Steel Design Guide 1, Base Plate and Anchor Rod Design, Second edition for erection stage.

*Design values for shear resistance of individual HPM Rebar Anchor Bolt. (Steel strength).  
Anchor bolt material grade 60 according to standard ASTM A615M.*

| Anchor Bolt            | $\phi V_{sa}$ [kN]<br>Final Stage | $\phi V_{sa,0}$ [kN]<br>Erection Stage | $t_{Grout}$ [mm] |
|------------------------|-----------------------------------|--|------------------|
| <b>HPM 16 ACI ASTM</b> | 28                                | 5                                      | 50               |
| <b>HPM 20 ACI ASTM</b> | 43                                | 11                                     | 50               |
| <b>HPM 24 ACI ASTM</b> | 62                                | 19                                     | 50               |
| <b>HPM 30 ACI ASTM</b> | 99                                | 40                                     | 50               |
| <b>HPM 39 ACI ASTM</b> | 173                               | 72                                     | 60               |

*Design values for shear resistance of individual HPM Rebar Anchor Bolt. (Steel strength).  
Anchor bolt material B500B according to standard EN 10080.*

| Anchor Bolt          | $\phi V_{sa}$ [kN]<br>Final Stage | $\phi V_{sa,0}$ [kN]<br>Erection Stage | $t_{Grout}$ [mm] |
|----------------------|-----------------------------------|--|------------------|
| <b>HPM 16 ACI EN</b> | 25                                | 5                                      | 50               |
| <b>HPM 20 ACI EN</b> | 38                                | 10                                     | 50               |
| <b>HPM 24 ACI EN</b> | 55                                | 17                                     | 50               |
| <b>HPM 30 ACI EN</b> | 88                                | 35                                     | 50               |
| <b>HPM 39 ACI EN</b> | 153                               | 64                                     | 60               |

*Design values for shear resistance of individual HPM Rebar Anchor Bolt. (Steel strength).  
Anchor bolt material HRB500 according to standard GB 1499.*

| Anchor Bolt          | $\phi V_{sa}$ [kN]<br>Final Stage | $\phi V_{sa,0}$ [kN]<br>Erection Stage | $t_{Grout}$ [mm] |
|----------------------|-----------------------------------|--|------------------|
| <b>HPM 16 ACI GB</b> | 28                                | 5                                      | 50               |
| <b>HPM 20 ACI GB</b> | 43                                | 11                                     | 50               |
| <b>HPM 24 ACI GB</b> | 62                                | 19                                     | 50               |
| <b>HPM 30 ACI GB</b> | 99                                | 40                                     | 50               |
| <b>HPM 39 ACI GB</b> | 173                               | 72                                     | 60               |

**NOTE:** Resistances  $\phi V_{sa}$  and  $\phi V_{sa,0}$  are valid for height of joint equal to  $t_{Grout}$ .