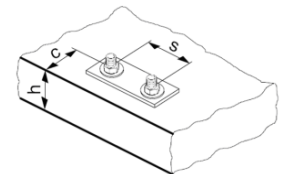


### Setting details for HAS-U

| Anchor size   |                    |      | M8   | M10 | M12                          | M16 | M20              | M24 | M27 | M30 |
|---|--------------------|------|--|-----|------------------------------|-----|------------------|-----|-----|-----|
| Nominal diameter of drill bit                                   | $d_0$              | [mm] | 10   | 12  | 14                           | 18  | 22               | 28  | 30  | 35  |
| Effective embedment depth<br>(= drill hole depth) <sup>a)</sup> | $h_{ef,min} = h_0$ | [mm] | 60   | 60  | 70                           | 80  | 90               | 96  | 108 | 120 |
|   | $h_{ef,max} = h_0$ | [mm] | 160  | 200 | 240                          | 320 | 400              | 480 | 540 | 600 |
| Minimum base material thickness                                 | $h_{min}$          | [mm] | $h_{ef} + 30 \text{ mm} \geq 100 \text{ mm}$ |     |                              |     | $h_{ef} + 2 d_0$ |     |     |     |
| Maximum diameter of clearance hole in the fixture               | $d_f$              | [mm] | 9  | 12  | 14                           | 18  | 22               | 26  | 30  | 33  |
| Thickness of Hilti filling set                                  | $h_{fs}$           | [mm] | -  | -   | -                            | 11  | 13               | 15  | -   | -   |
| Effective fixture thickness with Hilti filling set              | $t_{fix,eff}$      | [mm] | $t_{fix} - h_{fs}$                           |     |                              |     |                  |     |     |     |
| Maximum torque moment <sup>b)</sup>                             | $T_{max}$          | [Nm] | 10   | 20  | 40                           | 80  | 150              | 200 | 270 | 300 |
| Minimum spacing   | $s_{min}$          | [mm] | 40   | 50  | 60                           | 75  | 90               | 115 | 120 | 140 |
| Minimum edge distance   | $c_{min}$          | [mm] | 40   | 45  | 45                           | 50  | 55               | 60  | 75  | 80  |
| Critical spacing for splitting failure                          | $s_{cr,sp}$        | [mm] | $2 C_{cr,sp}$                                |     |                              |     |                  |     |     |     |
| Critical edge distance for splitting failure <sup>c)</sup>      | $C_{cr,sp}$        | [mm] | $1,0 \cdot h_{ef}$                           |     | for $h / h_{ef} \geq 2,00$   |     |                  |     |     |     |
|   |                    |      | $4,6 h_{ef} - 1,8 h$                         |     | for $2,0 > h / h_{ef} > 1,3$ |     |                  |     |     |     |
|   |                    |      | $2,26 h_{ef}$                                |     | for $h / h_{ef} \leq 1,3$    |     |                  |     |     |     |
| Critical spacing for concrete cone failure                      | $s_{cr,N}$         | [mm] | $2 C_{cr,N}$                                 |     |                              |     |                  |     |     |     |
| Critical edge distance for concrete cone failure                | $C_{cr,N}$         | [mm] | $1,5 h_{ef}$                                 |     |                              |     |                  |     |     |     |

For spacing (edge distance) smaller than critical spacing (critical edge distance) the design loads have to be reduced.

- a)  $h_{ef,min} \leq h_{ef} \leq h_{ef,max}$  ( $h_{ef}$ : embedment depth)
- b) Maximum recommended torque moment to avoid splitting failure during instalation with minimum spacing and edge distance
- c)  $h$ : base material thickness ( $h \geq h_{min}$ )
- d) The critical edge distance for concrete cone failure depends on the embedment depth  $h_{ef}$  and the design bond resistance. The simplified formula given in this table is on the save side.



HAS-U-...



#### Marking:

Steel grade number and length identification letter: e.g. 8L