

# K 800 KÖCO threaded studs – the new class!

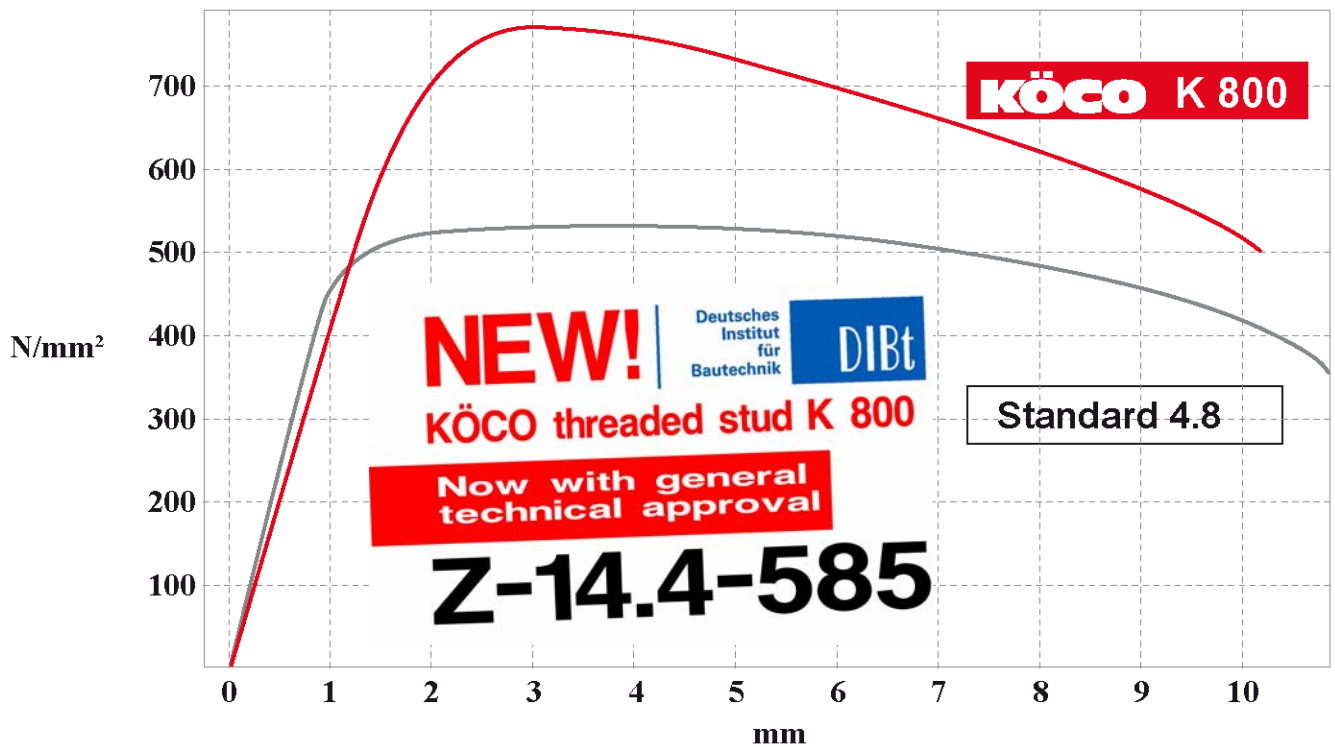
KÖCO threaded studs – now in yield strength 640 N/mm<sup>2</sup>

Here are your advantages compared to standard studs 4.8:

- Nominal values of tensile strength and yield strength doubled
- No embrittlement during stud welding
- Smaller stud diameters with equal load capacity
- Weight and cost reductions
- Replacement of 8.8 standard screws with KÖCO K 800 welding studs possible
- General technical approval Z-14.4-585 (DIBt, German institute for building technique) available

## Tensile test (example)

	S <sub>0</sub> [mm <sup>2</sup> ]	E [N/mm <sup>2</sup> ]	R <sub>p0,2</sub> [N/mm <sup>2</sup> ]	F <sub>m</sub> [N]	R <sub>m</sub> [N/mm <sup>2</sup> ]
Specimen 1 - K 800 (M 20)	245,00	28605	669	188688	771
Specimen 2 - K 800 (M 20)	245,00	28182	666	189723	774
Specimen 3 - S235J2 (M 20)	245,00	32325	486	131070	534
Specimen 4 - S235J2 (M 20)	245,00	33519	477	130671	534

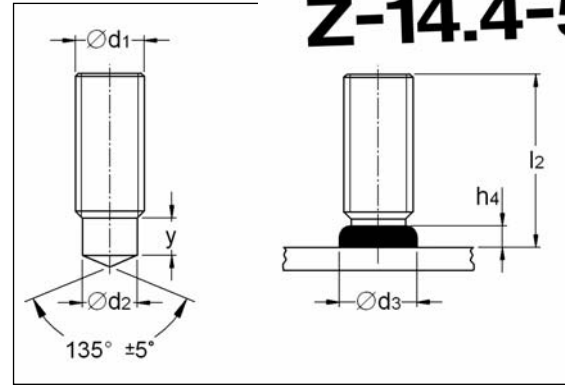
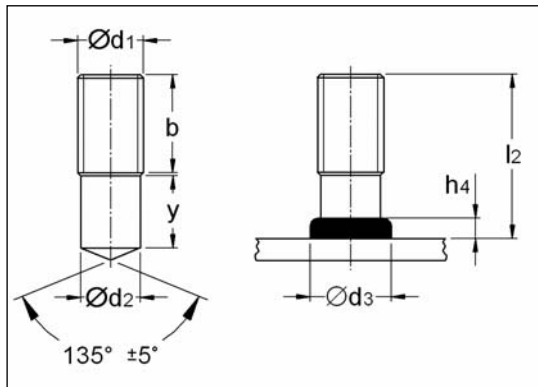


Fracture load Standard 4.8

app.130 kN

**Fracture load K 800**

**app.190 kN**

**KÖCO K 800 data sheet**

**Threaded stud PD, dimensions acc. to EN ISO 13918 Threaded stud RD, dimensions acc. to EN ISO 13918**

d <sub>1</sub>	l <sub>2</sub>	h <sub>4</sub>	d <sub>2</sub>	d <sub>3</sub>	y <sub>min</sub>	b
<b>M 8</b>	15 - 45	3,5	7,19	10	9	
	50 - 100	3,5	7,19	10		40
<b>M 10</b>	20 - 45	4	9,03	12,5	9,5	
	50 - 75					40
	80 - 120					80
<b>M 12</b>	25 - 50	4,5	10,86	15,5	11,5	
	55 - 100					40
	140 - 160					80
<b>M 16</b>	30 - 45	6	14,7	19,5	13,5	
	50 - 100					40
	120 - 160					80
<b>M 20</b>	35 - 50	7	18,38	24,5	15,5	
	55 - 75					40
	80 - 160					80

d <sub>1</sub>	l <sub>2</sub>	h <sub>4</sub>	d <sub>2</sub>	d <sub>3</sub>	y <sub>min</sub>
<b>M 8</b>	20 - 100	2,5	6,2	9	4
<b>M 10</b>	20 - 100	3	7,9	11,5	5
<b>M 12</b>	25 - 100	4	9,5	13,5	6
<b>M 16</b>	30 - 100	5	13,2	18	11
<b>M 20</b>	40 - 100	6	16,5	23	13

h<sub>4</sub> and d<sub>3</sub> are approximate values which are subject to the welding parameters.

**Material:** K 800, weldable.

**Information about the material K 800:**

K 800 has minimum yield strength of 640 N/mm<sup>2</sup> with minimum tensile strength of approx. 800 N/mm<sup>2</sup> and can replace screws of the strength category 8.8 according to ISO 898. The low carbon content of approx. 0.1% prevents embrittlement during welding. The high level of strength in K\_800 is achieved exclusively by cold forming.

In the bend test acc. to EN ISO 14555 the weld zone is subject to higher load compared to standard studs. This needs to be taken into account especially for the stud type RD. The requirements regarding the weld quality are higher than for S235 (4.8). As production test we recommend the tensile test acc. to chapter 11.4 (EN ISO 14555), as for the stud type RD and generally for relatively short studs (ratio diameter - length < app. ¼) the bend test acc. to standard is not suitable.

The surface shall be ground clean prior to welding. The weld collar should be shaped evenly. The welding parameters current, time, lift, protrusion and damping should be kept within narrower limits than usual.

For further advice do not hesitate to contact our technical experts.