

# Sheet pile element KKP (before 09/2009)

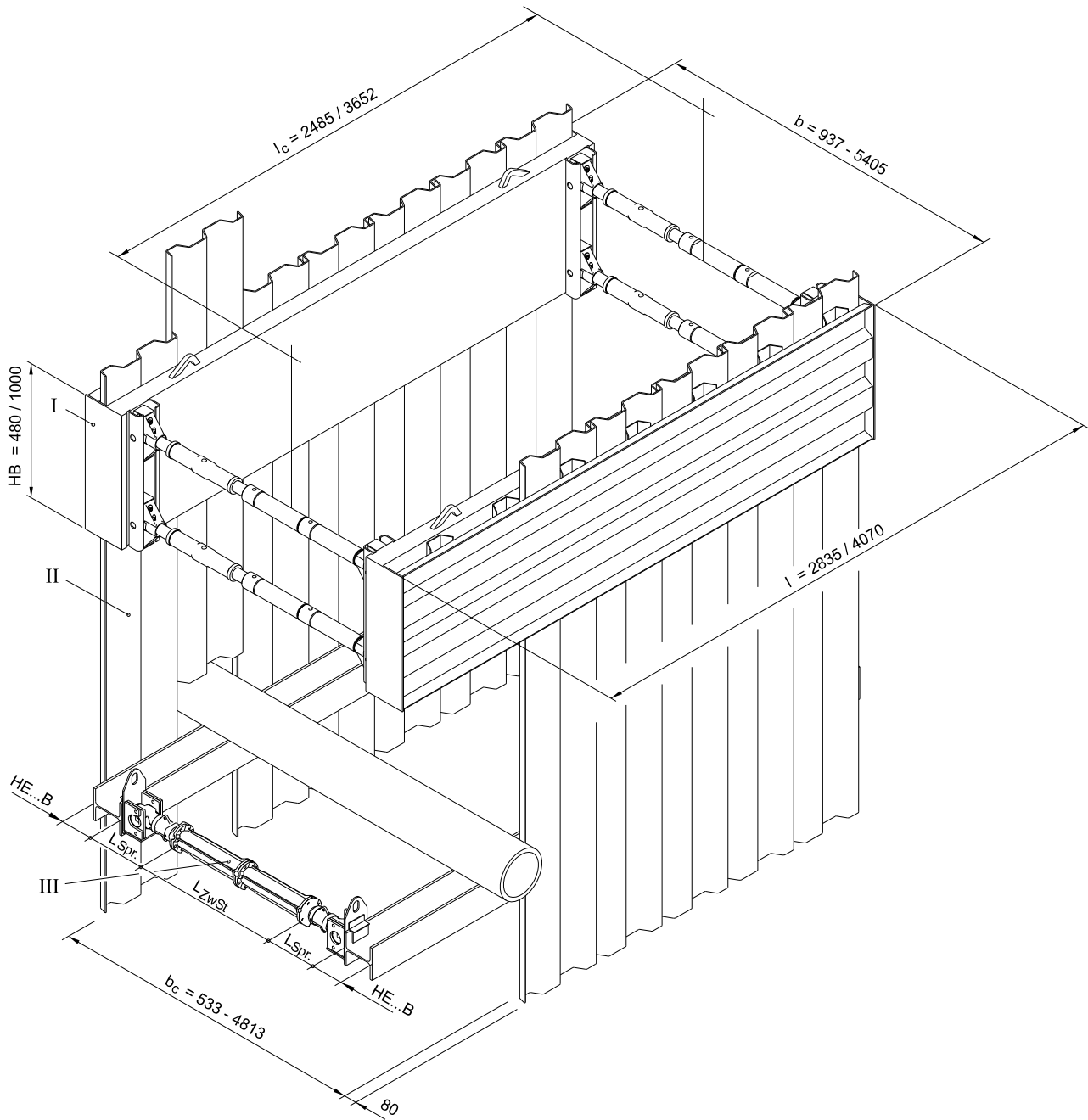


This rapid, cost-cutting shoring system (also known to experts as vertical shoring) is the inner-city complement to proven large-area steel shoring. Particularly in sections frequently crossed by pipes and cables, this type of shoring has a large number of economic advantages combined with its extreme ease of use. With dig-and-push installation by a digger at the end of the trench, efficient operations are assured even in busy streets and confined spaces.

The use of existing shoring components from the rest of the KRINGS product range helps to cut costs considerably. The strut elements are compatible with large-area steel shoring. Its combination with large-area shoring in sections without crossing pipes and cables is also highly economic. For this purpose, the frame panels are fitted at the ends with guide profiles for insertion in slide-rails.

## Basic data

Shoring length	2,83 m - 4,07 m
Height base unit	0,48 m / 1,00 m
Number of sheet piles	14 Stck. KD 4 / KD 6
Pipe culvert length	max. 3,65 m
Shoring depth	max. 2,30 m / 6,00 m



(All dimensions in mm)

I	Sheet pile element	I	Length	$h_c$	Pipe culvert height
II	Sheet pile	$l_c$	Pipe culvert length	$t_{pl}$	Thickness
III	Strut	b	Shoring / trench width		
HB	Height base unit	$b_c$	Inner width		

**Base units**

Art. No.	Short description	l [m]	h [m]	t <sub>pl</sub> [m]	l <sub>c</sub> [m]	G [kg]	A [m <sup>2</sup> ]	Section load [kN/m <sup>2</sup> ]
181 050	Sheet pile panel KKP ST KD4 UP - 2835x500	2,835	0,48	0,208	2,485	293,0	1,42	17,5
181 100	Sheet pile panel KKP ST KD6 CP - 4070x1000	4,070	1,00	0,305	3,652	938,0	4,07	56,1
185 020	Sheet pile panel KKP ST KD6 CPS - 4070x1000	4,144	1,00	0,305	3,652	1020,0	4,07	46,2

181 050 can only be used with KVL-struts.  
All pipe culvert heights with strut SP SB 98x550 / 700.  
The pipe culvert height depends on the static system.

**Shoring widths for KVL spindle**

Art. No.	Description	Inner width b <sub>c</sub> [m]	Trench width b [m]
118 060	SP KVL 70x650	0,533 - 0,627	0,937 - 1,031
118 070	SP KVL 70x740	0,623 - 0,807	1,027 - 1,211
118 090	SP KVL 70x920	0,809 - 1,171	1,213 - 1,575
118 020	SP KVL 70x1280	1,163 - 1,888	1,567 - 2,292

**Shoring widths for spindle 98x550**

Extension bar	Length [m]	Inner width b <sub>c</sub> [m]	Trench width b [m]
	without	0,765 - 0,965	1,404 - 1,604
139 430	0,30	1,065 - 1,265	1,704 - 1,904
139 445	0,50	1,265 - 1,465	1,904 - 2,104
139 385	1,00	1,765 - 1,965	2,404 - 2,604
139 400	1,50	2,265 - 2,465	2,904 - 3,104
139 420	2,00	2,765 - 2,965	3,404 - 3,604
139 425	2,50	3,265 - 3,465	3,904 - 4,104

**Shoring widths for spindle 98x700**

Extension bar	Length [m]	Inner width b <sub>c</sub> [m]	Trench width b [m]
	without	0,941 - 1,281	1,580 - 1,920
139 430	0,30	1,241 - 1,581	1,880 - 2,220
139 445	0,50	1,441 - 1,781	2,080 - 2,420
139 385	1,00	1,941 - 2,281	2,580 - 2,920
139 400	1,50	2,441 - 2,781	3,080 - 3,420
139 420	2,00	2,941 - 3,281	3,580 - 3,920
139 425	2,50	3,441 - 3,781	4,080 - 4,420

### Shoring widths for spindle 98x817

Extension bar	Length [m]	Inner width $b_c$ [m]	Trench width $b$ [m]
	without	0,913 - 1,313	1,505 - 1,905
139 510	1 x 0,50	1,413 - 1,813	2,005 - 2,405
139 510	2 x 0,50	1,913 - 2,313	2,505 - 2,905
139 510	3 x 0,50	2,413 - 2,813	3,005 - 3,405
139 510	4 x 0,50	2,913 - 3,313	3,505 - 3,905
139 510	5 x 0,50	3,413 - 3,813	4,005 - 4,405
139 510	6 x 0,50	3,913 - 4,313	4,505 - 4,905
139 510	7 x 0,50	4,413 - 4,813	5,005 - 5,405

### Accessories / Spares

Art. No.	Short description	l [m]	G [kg]	d [m]
138 280	Spindle to stick, 98x550		22,0	
138 290	Spindle to stick, 98x700		34,0	
138 300	Spindle to stick, 98x817, complete		76,9	
138 170	Mushroom FP 80		13,0	
138 030	Pin 125 x 20	0,125	0,4	0,020
138 070	Pin 212 x 43	0,212	2,5	0,043
138 040	Pin 140 x 20	0,140	0,4	0,020
138 200	Spring cotter 92 x 5	0,092	0,1	0,005

l	Length	$h_c$	Pipe culvert height	G	Weight
$l_c$	Pipe culvert length	$t_{pl}$	Thickness	$e_h$	Earth pressure max.
b	Trench width	d	Diameter		
$b_c$	Inner width	A	Area		

### Accessories / Spares

Art. No.	Short description	l [m]	d [m]	G [kg]
842 752	Adapter for DKU piling frame, corner shoring, h = 0.50 m KDVI			55,0
842 753	Adapter for DKU piling frame, corner shoring, h = 1.00 m KDVI			94,0
850 699	Adjustment bar	0,7	0,024	2,5
139 070	Chain sling connection, 4-leg, 2300 x 13	2,30		45,0
139 080	Chain sling connection, 4-leg, 2800 x 13	2,80		57,0
139 100	Connection stanchion 290 x 145			5,5
842 099	DKU piling frame guide frame	2,27		105,0
842 100	DKU piling frame guide frame	3,81		175,0
859 982	Drop-in bearing block, adjustable, Krings			12,0
859 981	Drop-in bearing block, Emunds+Staudinger			26,0
110 070	Fixing for pressure spring 100 x 85	0,100	0,085	0,8
119 011	KVL adapter for spindles 98x530 / 98x700			7,6
138 170	Mushroom FP 80			13,0
IA 0120 F	Nut M 16			0,03
IA 0130 F	Nut M 20			0,03
138 030	Pin 125 x 20	0,125	0,020	0,4
138 040	Pin 140 x 20	0,140	0,020	0,4
138 070	Pin 212 x 43	0,212	0,043	2,5

**Accessories / Spares (contd.)**

Art. No.	Short description	l [m]	d [m]	G [kg]
861 077	Pressure beam (Lightweight shoring, KS 60, KVL)	1,80		80,0
861 078	Pressure beam (Lightweight shoring, KS 60, KVL)	2,30		95,0
861 079	Pressure beam (Lightweight shoring, KS 60, KVL)	2,80		110,0
861 080	Pressure beam (Lightweight shoring, KS 60, KVL)	3,30		125,0
861 076	Pressure beam (Medium, Magnum shoring, KS 100, GLS)	1,60		176,0
861 074	Pressure beam (Medium, Magnum shoring, KS 100, GLS)	2,35		236,0
861 070	Pressure beam (Medium, Magnum shoring, KS 100, GLS)	2,80		271,0
861 071	Pressure beam (Medium, Magnum shoring, KS 100, GLS)	3,40		318,0
138 160	Pressure spring FP 80	0,084	0,054	0,8
100 690	Rubber parts GPU 30 x 40			0,1
IB 0310 F	Screw M 16 x 55			0,11
IB 0360 F	Screw M 20 x 45			0,17
138 200	Spring cotter 92 x 5	0,092	0,005	0,1
336 960	Support bracket for DKU piling frame element			40,0
821 100	Suspension chain KL-13-8	5,000		25,7

l	Length	d	Diameter	G	Weight
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