

# Double slide rail system

## Linear shoring



Suitable for concrete poured in-situ, linear shoring can be adapted flexibly to suit project requirements and leaves the soil outside the trench largely unaffected, with no adverse impact on buildings and traffic flow. The use of overlapping linear shoring is also a benefit when operating at greater depths.

The inner and outer panels are held in vertically installed rails so that they can slide past each other. Since the extraction forces are much lower than on most other shoring systems, this improves the overall economy of the system, particularly in deeper trenches. Rigid bogie cars, height-adjustable to suit the increasing depth of the excavation, keep the beams and shoring panels at a uniform distance apart, and the trench width stays the same at all stages of the project. This noticeably improves the efficiency, speed, quality and cost-effectiveness of the process, with a key benefit of the system being contributed by the design of the beam, i.e. only with linear shoring is it possible to pivot the shoring panels in from the side.

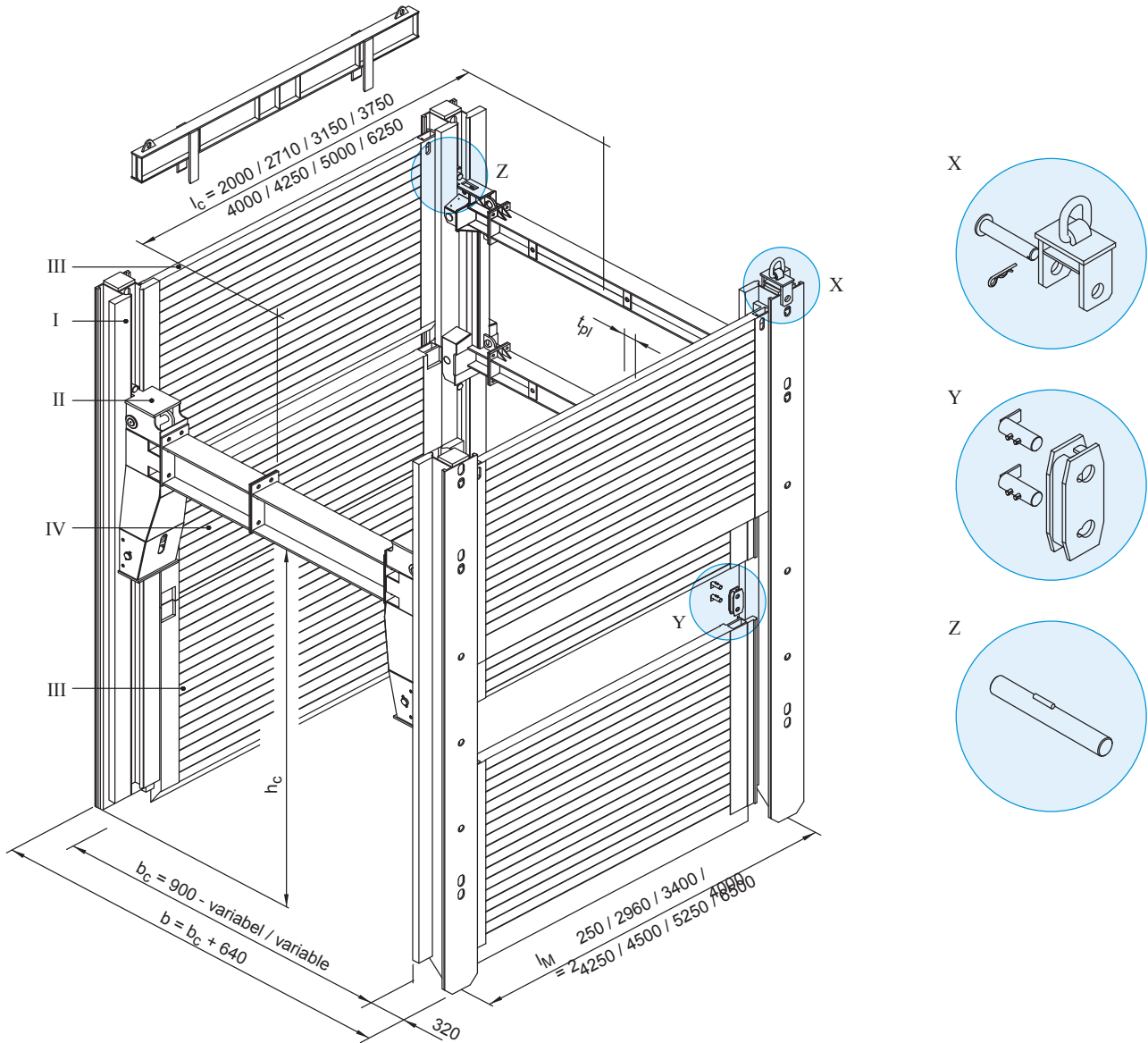
### Basic data

Module length	2,25 m - 6,50 m
Length slide rail	5,13 m - 9,13 m
Panel height	1,32 m / 2,32 m
Pipe culvert height	variable
Trench width	variable, see page 32-33

### Advantages

- Economical shoring solution for very deep and/or wide excavations
- Low extraction forces
- Trench width constant in all construction phases
- Suitable for in-situ concrete
- Ideal for use in towns and city centers

Double slide rail Linear shoring with U-type or rectangular boogie car



(All dimensions in mm. The details of length of pipe opening  $l_c$  refer to the rectangular boogie car.)

From an intermediate piece length combination of 1.10 m, it is mandatory to mount the shoring horizontally.

I	Linear shoring support	$l_c$	Pipe culvert length	X	Pull adapter
II	Boogie car	$b$	Shoring / trench width	Y	Connector
III	Base panel	$b_c$	Inner width	Z	Pin
IV	Top panel	$h_c$	Pipe culvert height		
$l_M$	Module length	$t_{pl}$	Thickness		

Linear shoring support

Art. No.	Short description	l [m]	G [kg]
820 912	Linear shoring support	5,13	1.002,0
820 915	Linear shoring support	6,13	1.192,0
820 920	Linear shoring support	7,13	1.404,0
820 924	Linear shoring support	8,13	1.859,0
820 929	Linear shoring support	9,13	2.325,0

**Base panels -inside- (height 2.32 m)**

Art. No.	l [m]	l <sub>M</sub> [m]	t <sub>pl</sub> [m]	l <sub>c</sub> [m]	G / VP [kg]	A [m <sup>2</sup> ]	eh [kN/m <sup>2</sup> ]
821 120	1,89	2,25	0,11	2,00	519,0	4,38	176,00
821 160	2,60	2,96	0,11	2,71	650,0	6,03	90,00
821 250	3,04	3,40	0,11	3,15	733,0	7,05	65,50
821 610	3,64	4,00	0,11	3,75	845,0	8,44	45,20
821 850	3,89	4,25	0,11	4,00	968,0	9,02	39,40
821 855	4,14	4,50	0,15	4,25	1.300,0	9,58	81,00
821 860	4,89	5,25	0,15	5,00	1.505,0	11,34	58,10
821 861	6,13	6,50	0,15	6,25	1.880,0	14,22	36,60

**Top panels -inside- (height 1.32 m)**

Art. No.	l [m]	l <sub>M</sub> [m]	t <sub>pl</sub> [m]	l <sub>c</sub> [m]	G / VP [kg]	A [m <sup>2</sup> ]	eh [kN/m <sup>2</sup> ]
822 060	1,89	2,25	0,11	2,00	356,0	2,49	176,00
821 180	2,60	2,96	0,11	2,71	450,0	3,43	90,00
822 120	3,04	3,40	0,11	3,15	519,0	4,01	65,50
822 620	3,64	4,00	0,11	3,75	620,0	4,80	45,20
822 760	3,89	4,25	0,11	4,00	649,0	5,13	39,40
822 783	4,14	4,50	0,15	4,25	873,0	5,45	81,00
822 800	4,89	5,25	0,15	5,00	1.098,0	6,45	58,10
822 801	6,13	6,50	0,15	6,25	1.370,0	8,09	36,60

**Top panels -inside- (height 2.30 m)**

Art. No.	l [m]	l <sub>M</sub> [m]	t <sub>pl</sub> [m]	l <sub>c</sub> [m]	G / VP [kg]	A [m <sup>2</sup> ]	eh [kN/m <sup>2</sup> ]
822 065	1,89	2,25	0,11	2,00	532,0	4,35	176,00
822 155	2,60	2,96	0,11	2,71	660,0	5,98	90,00
822 180	3,04	3,40	0,11	3,15	742,0	6,99	65,50
822 680	3,64	4,00	0,11	3,75	852,0	8,37	45,20
822 780	3,89	4,25	0,11	4,00	980,0	8,95	39,40
822 785	4,14	4,50	0,15	4,25	1.409,0	9,50	81,00

The details of length of pipe opening l<sub>c</sub> refer to the rectangular boogie car.

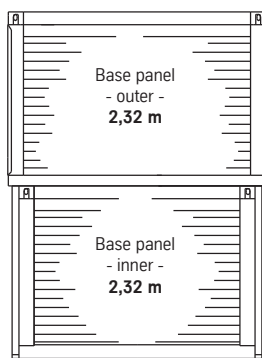
**Base panel -outside- (Height 2,32 m)**

Art. No.	l [m]	l <sub>M</sub> [m]	t <sub>pl</sub> [m]	l <sub>c</sub> [m]	G / VP [kg]	A [m <sup>2</sup> ]	eh [kN/m <sup>2</sup> ]
821 150	2,00	2,25	0,11	2,00	541,0	4,64	149,00
821 170	2,71	2,96	0,11	2,71	672,0	6,29	80,00
821 310	3,15	3,40	0,11	3,15	755,0	7,31	59,00
821 770	3,75	4,00	0,11	3,75	865,0	8,70	41,40
821 910	4,00	4,25	0,11	4,00	911,0	9,28	36,60
821 913	4,25	4,50	0,15	4,25	1.313,0	9,86	75,00
821 912	5,00	5,25	0,15	5,00	1.545,0	11,60	54,50
821 916	6,25	6,50	0,15	6,25	1.910,0	14,50	34,70

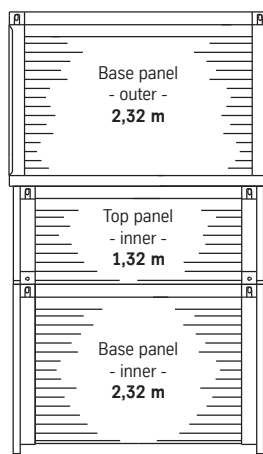
**Top panel -outside- (Height 1,32 m)**

Art. No.	l [m]	l <sub>M</sub> [m]	t <sub>pl</sub> [m]	l <sub>c</sub> [m]	G / VP [kg]	A [m <sup>2</sup> ]	eh [kN/m <sup>2</sup> ]
822 075	2,00	2,25	0,11	2,00	368,0	2,64	149,00
821 190	2,71	2,96	0,11	2,71	453,0	3,58	80,00
822 310	3,15	3,40	0,11	3,15	511,0	4,16	59,00
822 710	3,75	4,00	0,11	3,75	611,0	4,95	41,40
822 810	4,00	4,25	0,11	4,00	647,0	5,28	36,30
822 813	4,25	4,50	0,15	4,25	900,0	5,61	75,00
822 815	5,00	5,25	0,15	5,00	1.137,0	6,60	54,50
822 830	6,25	6,50	0,15	6,25	1.400,0	8,25	34,70

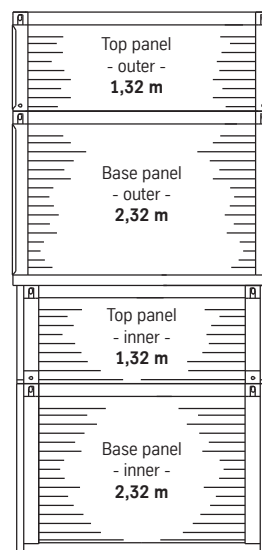
The details of length of pipe opening l<sub>c</sub> refer to the rectangular boogie car.

**Combinations of height Double slide rail Linear shoring**

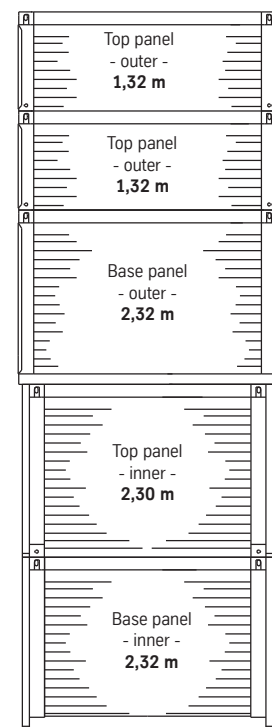
Trench depth approx. 4,60 m



Trench depth approx. 6,00 m



Trench depth approx. 7,30 m



Trench depth approx. 9,60 m

**Linear shoring boogie car**

Art. No.	Short description	l [m]	G [kg]
832 200	Rectangular boogie car	2,00	420,0
832 215	Linear shoring rectangular boogie car	2,20	490,0
832 205	Linear shoring U-type boogie car	2,00	550,0

**Extension bars for rectangular boogie car**

Art. No.	Short description	l [m]	G [kg]
830 005	Extension bar HEB 220	0,140	38,0
830 010	Extension bar HEB 220	0,275	50,0
830 011	Extension bar HEB 220	0,350	55,0
830 012	Extension bar HEB 220	0,375	57,0
830 015	Extension bar HEB 220	0,412	60,0
830 020	Extension bar HEB 220	0,550	70,0
830 030	Extension bar HEB 220	1,100	110,0
830 075	Extension bar HEB 220	1,650	152,0
830 125	Extension bar HEB 220	2,200	192,0
830 300	Extension bar HEB 220	3,300	278,0
830 305	Extension bar HEB 220	4,400	358,0

**Extension bars for U-type boogie car**

Art. No.	Short description	l [m]	G [kg]
831 503	Extension bar HEA 450	0,140	77,0
831 500	Extension bar HEA 450	0,275	107,0
831 507	Extension bar HEA 450	0,375	115,0
831 510	Extension bar HEA 450	0,550	140,0
831 520	Extension bar HEA 450	1,100	220,0
831 530	Extension bar HEA 450	1,650	300,0
831 540	Extension bar HEA 450	2,200	375,0

**Trench widths, Double slide rail shoring**

Length extension bar [m]	b <sub>c</sub> [m]	b [m]
without extension bar	0,900	1,540
0,140	1,040	1,680
0,275	1,175	1,815
0,350	1,250	1,890
0,375	1,275	1,915
0,412	1,312	1,952
0,550	1,450	2,090
1,100	2,000	2,640
1,650	2,550	3,190
2,200	3,100	3,740
3,300	4,200	4,840
4,400	5,300	5,940

Other trench widths possible by combining different extension bar lengths.  
Larger trench widths available on request.

**Accessories / Spares**

Art. No.	Short description	l [m]	d [m]	G [kg]
842 758	Adapter for DKU piling frame, corner shoring, h = 0.50 m KDIV			47,0
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
842 759	Adapter for DKU piling frame, h = 0.50 m KDIV (single slide rail, e+s)			40,0
842 749	Adapter for DKU piling frame, h = 0.50 m KDVI (single slide rail, e+s)			45,0
842 751	Adapter for DKU piling frame, h = 1.00 m KDVI (single slide rail)			75,5
834 080	Adapter for EGS / DGS (LV)			105,0
862 200	Connector			5,5

## Accessories / Spares (contd.)

Art. No.	Short description	l [m]	d [m]	G [kg]
834 100	Cover panel for in-situ concrete DG -base panel-	0,750		7,9
834 110	Cover plate for in-situ concrete DG -top plate-	1,000		9,9
842 099	DKU piling frame guide frame	2,27		105,0
842 100	DKU piling frame guide frame	3,81		175,0
IA 0150F	Nut M 24			0,1
IA 0210F	Nut M 36			0,4
862 100	Pin (for connector)	0,110	0,035	1,0
832 246	Pin for boogie car (deep Linear shoring)	0,300	0,05	4,6
832 230	Pin for Pressure Plate Rectangular Boogie Car	0,150	0,035	1,4
832 245	Pin, Linear shoring (double slide rail)	0,300	0,04	3,2
850 720	Pin, Linear shoring (single slide rail)	0,150	0,05	2,5
861 075	Pressure beam (boxes, slide rail)	4,60		425,0
861 085	Pressure beam (boxes, slide rail)	5,80		525,0
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
861 076	Pressure beam (Medium, Magnum shoring, KS 100, GLS)	1,60		176,0
834 015	Pressure plate for boogie car			12,4
834 060	Pull adapter double slide rail			43,6
834 057	Pull adapter single slide rail			33,0
IB 0470F	Screw M 24 x 80			0,4
IB 0614F	Screw M 36 x 80			1,0
HE 0050 F	Spring cotter 6 mm		0,006	0,03
HE 0060F	Spring cotter 8 mm		0,008	0,1
336 960	Support bracket for DKU piling frame element			40,0
821 100	Suspension chain KL-13-8	5,000		25,7
842 704	Waling for DKU piling frame, module length 2.84 m (single slide rail, e+s)	2,60		300,0
842 705	Waling for DKU piling frame, module length 3.88 m (single slide rail, e+s)	3,64		402,0
842 710	Waling for DKU piling frame, module length 4.13 m (single slide rail, e+s)	3,89		420,0
842 711	Waling for DKU piling frame, module length 4.38 m (single slide rail, e+s)	4,13		445,0

l	Length	b <sub>c</sub>	Inner width	G / VP	Weight per shoring panel
l <sub>M</sub>	Module length	t <sub>pl</sub>	Thickness	d	Diameter
l <sub>c</sub>	Pipe culvert length	A	Area	eh	Earth pressure max.
b	Shoring / trench width	G	Weight		