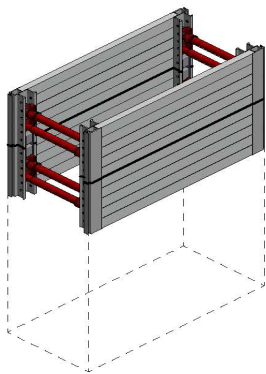
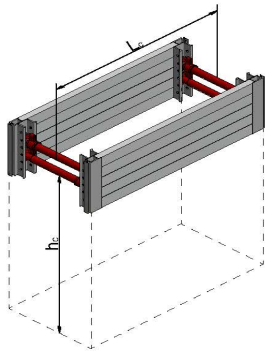
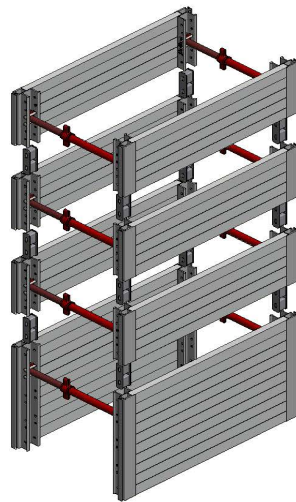
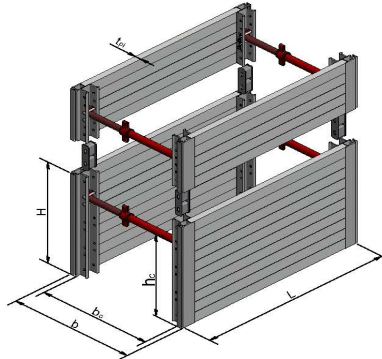


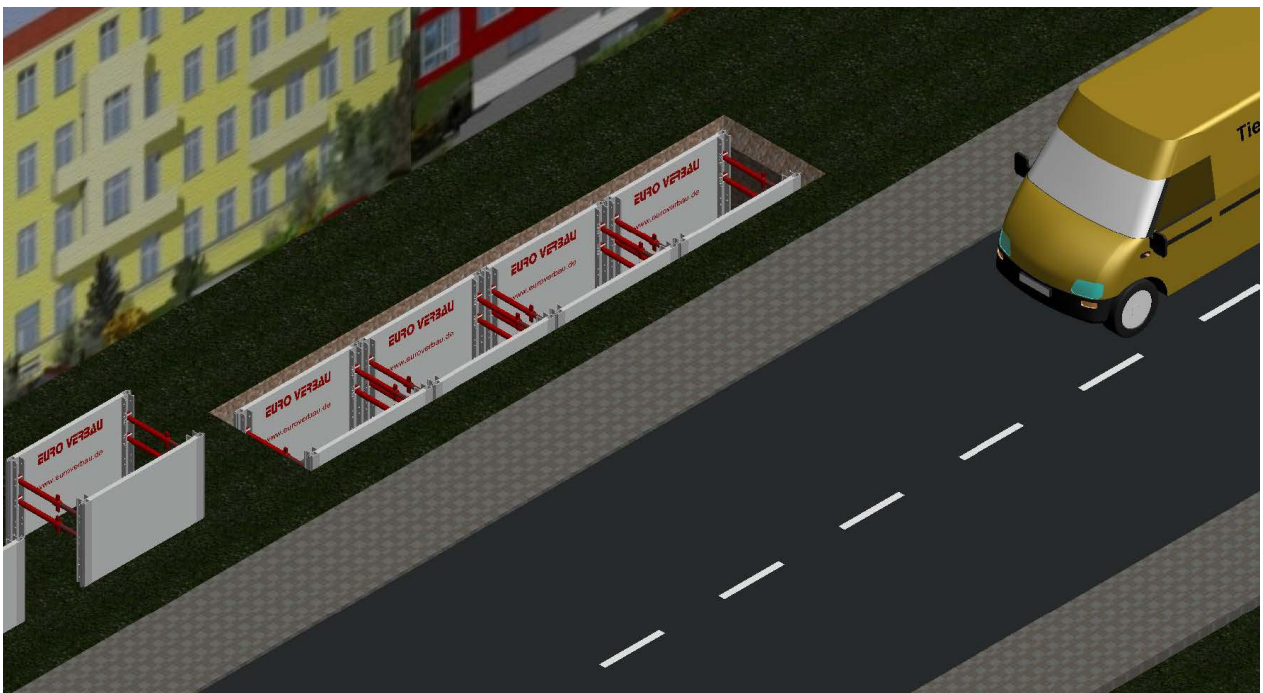
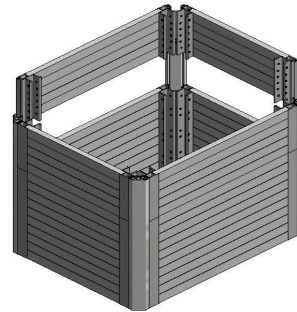
Support panel






Shoring box



Pit



-  : 3,00 m
-  : 0,71 m
-  : 1,00 m until 3,00 m

	Dimensions [mm]	Weight Panel [kg]	Weight Element [kg]	Pipe Clearance $h_c$ [mm]	Pipe Inlay Length $L_c$ [mm]	Diagonal max. [mm]	Area Element [m <sup>2</sup> ]	Max. Groundforce ( $R_v$ ) [kN/m <sup>2</sup> ]	Deflection (F) [mm]
<b>Base-panel</b>	<b>L x H x t<sub>p</sub></b>	<b>With 4 MB Spindles Typ A</b>							
ALU 60	3000x1200x60	140	332	565	2730	3317	7,2	33,5	94,2
ALU 60	2500x1200x60	100	252	565	2230	2873	6,0	37,4	76,6
ALU 60	2000x1200x60	86	224	565	1730	2449	4,8	52,3	63,6
ALU 60	1500x1200x60	72	196	565	1230	2061	3,6	69,8	55,8
ALU 60	1000x1200x60	58	168	565	730	1734	2,4	-	-
ALU 60	3000x600x60	70	192	180	2730	3150	3,6	33,5	94,2
ALU 60	2500x600x60	50	152	180	2230	2678	3,0	37,4	76,6
ALU 60	2000x600x60	43	138	180	1730	2218	2,4	52,3	63,6
ALU 60	1500x600x60	36	124	180	1230	1780	1,8	69,8	55,8
ALU 60	1000x600x60	29	110	180	730	1388	1,2	-	-

Corner Rail		Panel Length [mm]	Outside dim. b [mm]	Working Width b <sub>c</sub> [mm]
Length [mm]	Weight [kg]			
3000	34	1500	1800	1660
2400	27	2000	2300	2160
1800	21	2500	2800	2660
1200	14	3000	3300	3160

Mini-Box-Spindle	Outside dim. b [mm]		Working Width b <sub>c</sub> [mm]	
	min.	max.	min.	max.
Spindle Typ A	670	748	550	628
Spindle Typ B	760	928	640	808
Spindle Typ C	946	1293	826	1173
Spindle Typ D	1300	2009	1180	1889
Spindle Typ E	1990	2720	1870	2600

## Article list

Description		Dimension [mm]	Article-Nr.	Weight [kg]	No.
Base Panel	ALU 60	1000 x 1200	1001012A	58	
	ALU 60	1500 x 1200	1001512A	72	
	ALU 60	2000 x 1200	1002012A	86	
	ALU 60	2500 x 1200	1002512A	100	
	ALU 60	3000 x 1200	1003012A	140	
	ALU 60	1000 x 600	1001006A	29	
	ALU 60	1500 x 600	1001506A	36	
	ALU 60	2000 x 600	1002006A	43	
	ALU 60	2500 x 600	1002506A	50	
	ALU 60	3000 x 600	1003006A	70	
Corner Rail		3000	10003000	34	
		2400	10002400	27	
		1800	10001800	21	
		1200	10001200	14	
MB Spindle	Typ A		1110650	13	
	Typ B		1110740	14,5	
	Typ C		1110920	17	
	Typ D		1111280	21,5	
	Typ E		1111780	41	
Inner Spindle	für Typ A		1120343	7,0	
	für Typ B		1120433	7,7	
	für Typ C		1120611	9,1	
	für Typ D		1120974	12,1	
	für Typ E			12,3	
Outside Pipe	für Typ A		1120288	4,9	
	für Typ B		1120378	5,5	
	für Typ C		1120564	6,3	
	für Typ D		1120918	8,0	
	für Typ E			27,3	
Rubber Cap		85 x 135 mm		0,2	
Pin		Ø20 x 140 mm	1700140	0,4	
Safety Pin		92	1700092	0,1	
Connector			1000290	3,3	
Lifting string, 4-strings		1800 x 20	170423s	39,0	

Useful Info.

A panel always contains: 4 Pcs. Spindle Element  
 For the connection between 2 panels is needed: 4 Pcs. Connectors  
 8 Pcs. Pins Ø20 mm  
 8 Pcs. Safety pins  
 An MB Spindle Element contains: 1 Pc. Spindle  
 4 Pcs. Pins Ø20 mm  
 4 Pcs. Safety pins

# INSTRUCTION MANUAL



## Aluminium Shoring ALU 60

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**VERBAUSYSTEME VON VERBAU-PROFIS**

*Verbau-, Ramm- und Tiefbautechnik*  
Produktion - Verkauf - Vermietung - Service

## INSTRUCTION MANUAL

These instructions for use have to be presented to the building site personnel.

Also to be observed are the diagram of stresses on the lower braces and the load-bearing diagram (bracing characteristics) for the relevant type of brace. The brace stresses read from the diagram have to be applied to the appropriate load-bearing diagram to see whether the system is usable in regards of the trench depth and width.

### 1. General purpose of use

A light type of shoringbox developed for smaller sewerage constructions, laying of gas-, water- or other supply pipelines. Ideally suited for the use of small mobile excavators or even by hand.

### 2. Technical Data

Panel length	: 3000/2500/2000/1500/1000 mm
Panel Height	: 600/1200 mm
Max. Pipe Clearance	: 860/710/565/180 mm

### 3. Safety regulations

**ATTENTION**

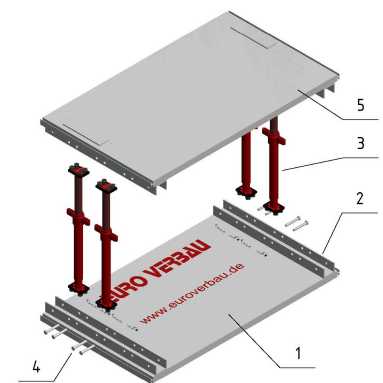
We refer to the fact that the above shoring system is only for the intended use and may only be mounted, installed, dismantled and unmounted in the sequence listed under points 4 - 7, exclusively with the use of all relevant "original construction elements". Please ensure a steady installation of the box, otherwise, it should be changed if necessary. If this is not observed, the manufacturer's liability and warranty are invalid. Observe the load bearing capacity of the shoring elements.

**Note:**

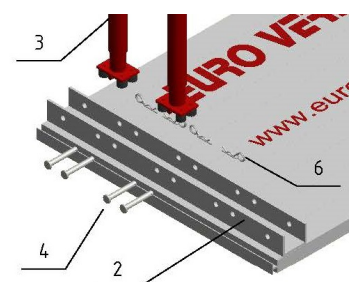
**All of the requirements of BG-Bau ( the professional association ) as well as DIN 4124 "Excavations and trenches, embankments, workroom width's, shoring" are applicable. In the event of conditions deviating from the standard conditions, construction site static must be prepared.**

### 4. Assembly (see picture 1a/1b):

- Lay the plate(1) with the soldier profile (2) facing upward on level ground
- Insert the struts (3) Into the soldier profile. Insert 2 bolts (4) d = 20 mm, L = 140 mm each into the bore holes provided on the soldier profiles via the head plates of the struts, and secure them with safety clips. Mount all four struts accordingly.
- Once all four struts haven been mounted, hang a suitable lifting device on the second plate (5). The weight of the units can be taken from the datasheets. Then attach, bolt, and secure the second plate from above.
- Set the shoring box in the ditch width using the butterfly nuts on the struts.
- By turning the butterfly nuts on the struts, increase the lower distance of the plates, depending on the ground conditions, by appr. 2 cm per meter of plate heigth. (picture 2)
- Assemble the support boxes analogously as described in 4 a - c, whereby only 2 struts are required and the extension box is attached to the base element with connectors and bolts with safety clips



**Pic.1a**



**Pic.1b**

## instruction manual

### 5. Installation

#### 5.1 Installation procedure for solid ground

Pick up the first pre-assembled shoring box using an appropriate lifting device and place it in the previously excavated trench. The weights can be taken from the data sheets as mentioned above. Then by turning the butterfly nuts, press the panels against the trench walls.

### 6. Dismantling

#### 6.1 Dismantling procedure for solid ground.

- Loosen the plates pressed against the trench wall ( see 5.1 ) by turning the butterfly nuts counter clock wise.
- Insert the back filling material in layers (observing the soil level )
- Pull the entire shoring box up to the filled height
- Compact the filler material
- Restart at point 6.1c until the box is completely pulled out of the earth

### 7. Disassembly

Before transporting away the ALU 60 box, it is disassembled analogously to the assembly but in the reverse sequence.

### 8. Maintenance/Service

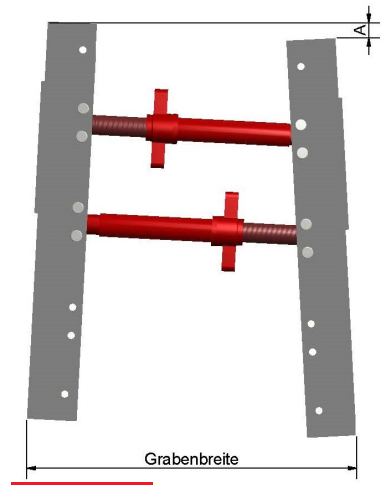
On each disassembly the ALU 60 box should be cleaned, the thread of the spindle should be cleaned and lubricated if necessary. The entire shoring unit must be protected against corrosion, caused by handling damage, by the use of appropriate protective matters.

### 9. Transport

When unloading, you should store the supplied wooden blockes and rubber plates appropriately. Then these parts must always be re-used for the return transport. As the shipper, you are co-responsible for the appropriate shipping of the return transport.

### 10. Criteria for removing parts from service and repair instructions

- As a matter of principle, all shoring parts must be checked for functionality before use.
- The criteria for the removal from service of worn or damaged parts include:
  - missing parts, such as nuts, screws, rungs and bolts.
  - broken parts, such as shafts, bolts, spreading systems.
  - with regard to the strongly deformed or twisted parts, or holes in the plate body, for example, the manufacturer should be consulted in case of doubt.
- Defective parts must be repaired or replaced.
- Smaller repairs may be performed by the user, after consulting the manufacturer.
- Only original manufacturer spare parts may be used.
- There is no warranty for improperly performed repairs or the use of non-original parts.
- The requirements of the Operating Safety Ordinance are applicable.



Pic. 2

