Technical data sheet

Metal box-out shutters

Product description

Metal box-out shutters made of interlocked sheet steel are used as permanent formwork or as recess formers. Upon customer's request, MAX FRANK transports the box-outs to the construction site preassembled or unassembled. These metal box-out shutters used as permanent formwork provide excellent shear force transmission.

- The shutter profile fulfils the requirement for the highest category "indented" according to DIN 1045-1 and/or DIN EN 1992-1-1
- Section depth 20 mm
- No freight and storage problems
- Quick and easy assembly without additional fixings

Pre-assembled box-out shutters

Box-out shutters made of interleaved steel sheet are used preferably as recess formers for retrospectively installing clamped supports and as permanent formwork for smaller machine foundations.

- Minimum size available: from 200 x 200 mm.
- Completely assembled box-out shutters are supplied in appropriate dimensions specified by the project and supplied directly to the construction site.

Unassembled folding box-out shutters

Box-out shutters made of interleaved steel sheet are used preferably as recess formers for retrospectively installing clamped supports and as permanent formwork for smaller machine foundations.

- Completely assembled box-out shutters are supplied in appropriate dimensions specified by the project and supplied directly to the construction site.
- Minimum size available: from 200 x 200 mm.

Unassembled folding box-out shutters

Yet-to-be-installed box-out shutters made of interleaved steel sheet may be used as recess formers and permanent formwork, just like the pre-installed variant, but are advantageous regarding transportation and storage due to their low volume.

- Easy and quick assembly with the included self tapping screws using pre-drilled holes
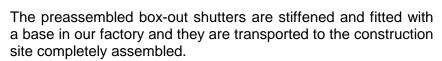- Due to shutter corners being pre-punched in the works, folding the shutter together is extremely simple

Factory made stiffening for box-out shutters

The box-out shutters consist of sturdy trapezoidal sheet. Therefore, no bracing elements are necessary in many cases.
If, however, particularly large-size recesses must be produced, we recommend additional stiffening of the box-out shutters – see chart below.

The preassembled box-out shutters are stiffened and fitted with a base in our factory and they are transported to the construction site completely assembled.

Stiffening chart

Values given in the chart are approximate values only and depend on the actual at-site conditions and on the concreting speed

Box-out shutter width	Box-out shutter height cm																
	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190
45/45												■	■	■	■	■	■
50/50											■	■	■	■	■	■	■
55/55										■	■	■	■	■	■	■	■
60/60									■	■	■	■	■	■	■	■	■
65/65								■	■	■	■	■	■	■	■	■	■
70/70							■	■	■	■	■	■	■	■	■	■	■
75/75						■	■	■	■	■	■	■	■	■	■	■	■
80/80					■	■	■	■	■	■	■	■	■	■	■	■	■
85/85				■	■	■	■	■	■	■	■	■	■	■	■	■	■
90/90			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
95/95		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
100/100	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

☐ Box-out shutter self-supporting ■ Stiffen box-out shutter at site