TERRA-MIX™
_STRAIGHT AHEAD

APPLICATION TABLE FOR IMPULSE COMPACTION AND REPLACEMENT BASE LAYER*

Main group	General group	Abbreviation Group symbol	Replacement base layer System TERRA-MIX RBL 30 - 50cm / layer	Impulse Compaction IC Effective depth	Hybrid foundation System TERRA-MIX	Ballast - or RBL-columns Column length
Coarse-grained soil	*Grit*	*GE*		**max. 6-8 m**		
Coarse-grained soil	*Grit*	*GW*		**max. 6-8 m**		
Coarse-grained soil	*Grit*	*GI*		**max. 6-8 m**		
Coarse-grained soil	*Sand*	*SE*		**max. 7-9 m**		
Coarse-grained soil	*Sand*	*SW*		**max. 7-9 m**		
Coarse-grained soil	*Sand*	*SI*		**max. 7-9 m**		
Mixed-grained soil	*Grit-silt*	*GU*		**max. 5-7 m**		**approx. 3 m**
Mixed-grained soil	*Grit-silt*	*GŪ*		**max. 4-7 m**		**approx. 3 m**
Mixed-grained soil	*Grit-clay*	*GT*		**max. 4-7 m**		**approx. 3 m**
Mixed-grained soil	*Grit-clay*	*GŤ*		**max. 3-6 m**		**approx. 3 m**
Mixed-grained soil	*Sand-silt*	*SU*		**max. 4-7 m**		**approx. 3 m**
Mixed-grained soil	*Sand-silt*	*SŪ*		**max. 3-6 m**		**approx. 3 m**
Mixed-grained soil	*Sand-clay*	*ST*		**max. 4-5 m**		**approx. 3 m**
Mixed-grained soil	*Sand-clay*	*SŤ*		**max. 3-5 m**		**approx. 3 m**
Fine-grained soil	*Silt*	*UL*		**max. 3-5 m**		**approx. 3 m**
Fine-grained soil	*Silt*	*UM*				**approx. 3 m**
Fine-grained soil	*Clay*	*TA, TM, TL*				**approx. 3 m**

technically possible
e.g. grit

technically eventually possible
e.g. sand - silt
Depending on layer strength, grain-size composition and water content

technically NOT possible
e.g. clay,
possibly replace the local soil.

N.B.: The data apply for a 9t drop weight with 1.5m base-diameter. In particular cases the groundwater conditions, the water content, the layer arrangement and the grain composition has to be considered!

* For details see reverse side

EXPLANATIONS AND AMMENDMENTS TO OVERLEAF TABLE:

_ Definitions

Hybrid foundation „System Terra-Mix“:
a combination of Impulse Compaction (IC) and Replacement Base Layer (RBL)

Replacement Base Layer (RBL):
a high quality constructed ground stabilisation consisting of one or more layers of up to 50cm.

_ Application criteria for RBL

Since a replacement base layer can be made with almost any material, the use of RBL is principally worthwile, when a surplus of material (pos. mass balance) is available at the building site. With extraneous material also recycled material or material of lower quality can be integrated and be improved upon.

_ Application criteria for Impulse Compaction of the ground:

_technically possible
e.g. grit → ✓

_technically conditionally possible
e.g. sand - silt → **conditionally possible: layer strength, grain-size composition and water content to be accounted for!**

_technically NOT possible
e.g. clay → **No! Possibly replace the local soil.**

_ Impulse Compaction compaction depth:

The listed values in the table apply as guidance values or respectively the following formula applies:

$$T = \sqrt{(M \times h)} \times A + D =$$
$$= \sqrt{(9{,}0 \text{ to } \times 1{,}2\text{m})} \times A + (\text{max.})\ 0{,}8\text{m}$$

Soil type	Specific value A
Silt	*1.0*
Grit, silty	*1.5*
Grit, Sand	*up to 2.5*

The following applies:
T ….. Effective depth
A ….. Soil specific value
D ….. Depth of the latest transition, max. 0.8m

_ Minimum distance to neighbouring buildings for Impulse Compaction (IC):

As a rule of thumb: **FOR BUILDINGS OF SOLID CONSTRUCTION (RESIDENTIAL BUILDINGS) 15 METER, AND FOR FRAME CONSTRUCTIONS (INDUSTRIAL BUILDINGS) 6 - 8 METER APPLIES.**

By redusing the drop height the distance to buildings can be reduced. A preservation of evidence before the compaction work as well as accompanying vibration measurements are recommended.

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