



1 Placement of a cementitious screed as an industrial screed



2 Spreading the screed to the specified height



3 Screed surface with scattered on hard aggregate (hard aggregates according to DIN 1100)



4 After scattering the hard aggregates, these are smoothed into the still-fresh surface using a power float



5 An evaporation protection agent (e.g. Meboplast diluted 1:2 with water) is applied once the screed can be walked on



6 Construction joints should be closed by adhesion using a reactive resin system (e.g. Thixopont, F) prior to laying the floor covering



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LANXESS DEUTSCHLAND GMBH
51369 LEVERKUSEN, GERMANY | WWW.LANXESS.COM

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PROCESSING INSTRUCTIONS



X Mebodur®

SCREED ADMIXTURE FOR THE FORMULATION OF HIGH-GRADE CEMENTITIOUS INDUSTRIAL SCREEDS

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X Mebodur®

The screed admixture Mebodur® facilitates the processing of cementitious screeds with high binder contents and low water-binder ratios.

The water-saving effect of Mebodur® results in a permanent increase in flexural and compressive strength and also enhances the surface properties of the screeds.

With Mebodur®, cementitious screeds can be reliably produced from grade CT C35 F6 up to hardness class CT C55 F8. It can also be used in combination with a mineral bonding agent based on the products Anhydur® SA or Meboplast® to easily produce bonded screeds according to DIN 18560.

Screed mortar formulated with Mebodur® remains supple and compactable during processing despite the stiff-plastic application consistency. The mortar structure remains homogenous and does not tend to harmful separation of excess mixing water, which results in poor surface hardnesses. The use of Mebodur® greatly reduces the susceptibility of cementitious screeds to cracking.

Industrial screeds formulated with Mebodur®:
-are easily workable,
-achieve high compressive and flexural strengths
-are abrasion resistant,
-have a lower susceptibility to cracking,
-are versatile and durable.

APPLICATIONS

Mebodur® is used for the formulation of cementitious wearing screeds, industrial screeds and hard aggregate screeds of all hardness classes.

BASIC PRINCIPLES

All applications standards, specifications and rules of the trade apply, in particular DIN 18353 and DIN 18560, with the exception of those discrepancies identified in this instruction sheet.

PREREQUISITES ON THE JOB SITE

The trouble-free laying of screed requires closed, draft-free rooms. As with any cementitious industrial floor, an increased risk of defects – in particular an increased risk of cracking and the formation of voids (with bonded screeds) – must be expected when working in open rooms, outdoors or in rooms with convection/forced air heating. During the first 36 hours after laying the screed, the minimum room and substrate temperature should not be less than 10 °C, if possible, and by no means less than 5 °C. The installation in open spaces is only possible if special protective measures are taken, for example under a tent.

SUBSTRATE (BONDED SCREED)

The cementitious substrate for bonded screeds must be clean, open-pored (absorbent) and free of soft, detachable components. Substrate hardness must correspond to at least a concrete of hardness class C 25/30 according to DIN 1045-2. Average bond strength should be $\geq 1.5 \text{ N/mm}_2$ (lowest point value $\geq 1.2 \text{ N/mm}_2$.) Concrete surfaces must be milled and/or shotblasted prior to the laying of bonded screeds. This pretreatment must be followed by high-pressure wet cleaning. The dirty water must be vacuumed up to achieve an open and clean capillary-pore structure. The substrate should be slightly damp but not wet for laying the screed.

With a highly absorbent substrate, the substrate must be very carefully prewetted for a sufficient period prior to laying to ensure that the bonding agent does not “die of thirst.” Any cracks, broken edges or other substrate defects must be repaired before laying the screed.

BONDING AGENT

The use of a mineral bonding agent based on Anhydur® SA or Meboplast® ensures a reliable bond between the screed and the concrete substrate (cf. LANXESS product information sheets for Anhydur® SA or Meboplast® bonding agent at www.anhydrit.de).

AGGREGATE FOR MAKING SCREED

Aggregates from 0 - 8 mm (grading curve A/B 8 according to DIN 1045) are used for screed thicknesses between 30 and 50 mm. Aggregates from 0 - 16 mm (grading curve A/B 16 according to DIN 1045) are used for greater screed thicknesses Recommendation: The aggregates must satisfy the stricter requirements of DIN 4226-2, Annex D (materials of organic origin).

CEMENT FOR MAKING SCREED

Suitable are CEM I cements according to DIN EN 197-1. Use CEM II/A-S cements if these are not available. Poorer results may be obtained in some cases if CEM II cements are used. Always test for suitability!

MIXING THE SCREED MORTAR

Mebodur® has the greatest effect if the aggregate is premixed with Mebodur®. Cement, mixing water and the remainder of the aggregate is then slowly metered into the mixing drum. After all of the formulation components have been added, the mortar continues to be mixed

(for at least 2 minutes!) until a semi-dry mortar consistency is reached. During the cold season, the fresh mortar should have a temperature of at least 10 °C.

APPLICATION OF THE SCREED MORTAR

Placement, compaction and spreading of the screed mortar to the specified height is performed using conventional trade techniques. For screed thicknesses up to approx. 50 mm (and with optimal application consistency), adequate compaction can be achieved by repeated mechanical troweling. Additional compaction is required only if the mortar has a stiff consistency or for screed thicknesses > 50 mm.

SCREED SURFACE PREPARATION

After spreading and once the screed mortar has developed sufficient initial hardness, the surface is mechanically finished with a disk float to achieve a fully closed surface structure. The surface is then smoothed in at least two passes with a paddle float until just before final curing of the mortar.

The formation of bubbles during troweling or more pronounced paddle impact marks are indicative of premature troweling. Broom finishing is recommended after the second troweling pass to obtain a grippy, non-slip surface.

SAMPLE MORTAR FORMULATIONS

These formulations are intended as general guidelines only. Suitability must be tested on a case-by-case basis.

Wearing screed (CT C35 F6)

(Guide values/must be tested for suitability)

Water-cement ratio 0.45; aggregate in grading curve region A/B 8 or A/B 16 according to DIN 1045

CT C35 F6	kg/m ³	kg per batch
Cement (CEM I 32.5 R)	310	62,5
Aggregate	1830	366
Mebodur®	5.0	1.0

Wearing screed (CT C45 F7)

(Guide values/must be tested for suitability)

Water-cement ratio 0.45; aggregate in grading curve region A/B 8 or A/B 16 according to DIN 1045

CT C45 F7	kg/m ³	kg per batch
Cement (CEM I)	375	75
Aggregate	1,360	272
Grit (4 – 8 mm)	340	68

Mebodur®	7.5	1.5
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Add Mebodur after the first half of the aggregate, then meter the cement and mixing water. Add the second half of the aggregate and gradually add the remainder of the mixing water until a semi-dry mortar consistency is achieved.

NOTES ON JOINTS

With bonded screeds, joints are only placed where there are also joints in the substrate (structural joints). These are recreated in the same location and with the same width in the screed. The use of joint profiles is recommended. Given the relatively high shear stress, special attention must be paid to optimal substrate preparation in the area of the joints. High-grade bonding agents must be used to ensure the very good bond required between the concrete and the screed.

POSTTREATMENT OF THE SCREEDS

Cementitious screeds must be posttreated as soon and for as long as possible following troweling to prevent them from drying out. This means either covering the surface with overlapping PE films, wetting the surface or by applying Meboplast®, to protect it from releasing moisture too fast.

WEAR LAYER

All commercially available shake-on hard aggregates according to DIN 1100 can be used on the freshly laid industrial screed. The manufacturer's instructions must be observed when using hard aggregates.

For more information, go to:
WWW.ANHYDRIT.DE