SCHÖNOX ZM

Cement Based Self-leveling Compound

Suitable on cement and gypsum based substrates. Designed for fast leveling of floors in interior areas. SCHÖNOX ZM can be installed up to 1".

Product characteristics

- EMICODE EC 1PLUS R: very low emission
- Benefits to Environment and Health
- for interior use only
- self-leveling
- high hardness and strength
- suitable on underfloor heating systems
- layer thicknesses above 1/16" up to 1"
- pumpable
- very low shrinkage
- suitable for castor wheel loadings
- moisture resistant (interior only), no moisture vapor emission limitations on properly prepared concrete
- conforms with uSD 96/98/BC
- exceeds minimum Ff/Fl requirements of ASTM and ACI when installed in accordance with the guidelines
- tested in accordance with ASTM C1708
- dust reduced

Applications

SCHÖNOX ZM is suitable for filling, smoothing and leveling of substrates:

- under flexible coverings
- under wood floor, layer thickness above 1/8" (use elastic adhesives only)
- under ceramic tiles

as well as for filling, smoothing and leveling of unheated, cement based substrates under:

- SCHÖNOX Moisture Mitigation Systems

Substrates

SCHÖNOX ZM is suitable on:

- concrete, cement substrates
- gypsum substrates
- OSB board, plywood (well screwed or bonded) prior to install flexible coverings
- old substrates such as ceramic tiles and terrazzo
- old, water-resistant adhesive residues

Requirements of substrate

- Subfloors must be smooth, sound, clean, dry and free of any contaminants which may hinder adhesion.
- Surface treatments or any "friable" areas of the subfloor must be mechanically removed back to a sound base and the substrate repaired with SCHÖNOX repair compounds as required.
- This product is not a vapor barrier and will allow free passage of moisture. Follow the directions of the floor covering manufacturer regarding the maximum allowable substrate moisture content and test the substrate prior to installing SCHÖNOX ZM. Where substrate moisture exceeds the maximum allowed then application of SCHÖNOX SDG PLUS, SCHÖNOX MR 18 or SCHÖNOX EPA may be used to suppress residual moisture.
- Do not use SCHÖNOX ZM where hydrostatic pressure conditions exist or where moisture vapor emissions exceed the recommended levels.
- Gypsum substrates should always be dry. Do not use moisture mitigation systems on gypsum substrates.
- Old water-soluble adhesives should be removed completely, old water-resistant adhesives should be mechanically removed as far as possible. The complete mechanical removal of cutback (i.e. grinding, sanding, blasting) can be hazardous as old cutback adhesive may contain asbestos. Do not sand or grind adhesive residue. Refer to the Resilient Floor Covering Institute's publication "recommended work practice for removal of resilient floor coverings" for instruction. Prime remaining adhesive residues accordingly.
- Old floors such as ceramic tiles should be thoroughly cleaned and abraded.
- The requirements of the relevant valid standards (such as ASTM 2873-13), guidelines and data sheets apply.

Priming

- **porous substrates such as:**
  - concrete, cement substrates

  prime with SCHÖNOX VD (1:3) or KH FIX.
- **non porous, smooth, sound substrates such as:**
  - old water-resistant adhesive residues, removed as far as possible
  - OSB board, plywood (well screwed down and/or bonded)

  prime with SCHÖNOX SHP.
- **gypsum substrates (sanded and vacuumed)** prime with SCHÖNOX KH FIX.

Mixing ratio

- mix each 25kg / 55lb. bag with 6.25 - 6.5 liters / 6.6 - 6.8 quarts of water
- we recommend to extend SCHÖNOX ZM with dry, clean aggregate (aggregate is added last) at a layer thickness above 1/2": Type and amount of aggregate used will affect product performance. As qualities of locally available aggregates vary, we recommend to perform tests prior to use on a larger scale.
  Do not overwater! Foam while mixing, or settling of the sand aggregate while placing, indicates overwatering.

Technical data

- pot life: approx. 30 minute
- ready for foot traffic: approx. 2 hours
- ready for covering:
  - after approx. 16 hours at 1/4"
  - after approx. 48 hours at 3/8"
  - for ceramic tiles: when walkable
- working temperature: 41°F - 90°F
- coverage:
  approx. 60 – 70 sq.ft. at 1/8" (depending on substrate conditions and aggregate used)
- compressive strength (ASTM C109):
  5800 psi / 35 N/mm² / 400 kg/cm2 after 28 days
  2400 psi / 15 N/mm² / 160 kg/cm² after 1 day
- flexural strength (ASTM C348):
  approx. 1300 psi / 7 N/mm² after 28 days
- tensile strength (ASTM C1583) at 1/8":
  above 400 psi / 2.5 N/mm² after 3 days
- initial Set (ASTM C191):
  approx. 60 minutes
- final Set (ASTM C191):
  approx. 70 minutes
- cured density: 116 lbs. / cu.ft.
- UL-classified in accordance with ASTM E84 (ANSI/UL 723):
  Flame Spread 0; Smoke Development 0

All values are approximate, are subject to local climatic fluctuations based upon conditions at 70°F with atmosphere of less than 65 % relative humidity following the recommended mixing ratio. Do not install underlayment or topping before the substrate has dried thoroughly.

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Recommended method of working

- Using a clean mixing drum, add SCHÖNOX ZM to cold, clean water to form a homogeneous mixture. Mix thoroughly for approx. 3 minutes using a heavy-duty drill (min. 600 rpm) to obtain a lump-free mix. Then pour the mix and spread using a smoothing trowel. Even surfaces are easily achieved using a pin leveler. In higher thicknesses using a spike roller is recommended.
- Contact to vertical structures should be avoided by putting in SCHÖNOX FOMTAPE.
- If a second layer of leveling compound is to be applied, prime the first layer with SCHÖNOX KH FIX after drying. The maximum layer thickness must not be exceeded in case of two layer applications. The second layer must not exceed the layer thickness of the first layer.
- Protect curing SCHÖNOX ZM layers from high ambient temperatures, direct sunlight and draughts.
- Clean tools in water immediately.

Packaging

- 25kg / 55lb. net weight in paper bags

Storage

- Store in cool and dry conditions.
- Shelf life: 12 months unopened.
- End of shelf life does not generally indicate the end of the products suitability for the intended use. Always test in a small area.

Disposal

- Empty packaging and dispose of in accordance with federal, state and local waste disposal regulations.

VOC Content

- 0g/l (calculated), SCAQMD 1113

LEED

May help contribute to LEED v4 certification of projects in the categories:

- EQc2 - 3 points
  Low-Emitting Materials
- MRc1 - up to 2 points
  Life-Cycle Impact Reduction
- MRc2 - 1 point
  Environmental Product Declaration
- MRc4 - 1 point
  Material Ingredients

Environmental Product Declaration (EPD)

- Declaration number:
  EPD-DIV-20130096-IBE1-EN

Instructions

- Do not use in areas of constant water exposure (such as interior swimming pools).
- Always install an adequate number of properly located test areas, to include the finish flooring, to determine the suitability of the product for its intended use. As floor coverings vary, always contact and rely upon the floor covering manufacturer for specific directions such as maximum allowable moisture content, adhesive selection, and intended end use of the product.
- Low substrate temperatures and/or high ambient humidity require longer drying times.

Precautions

- SCHÖNOX ZM contains Portland cement and sand aggregate. Avoid eye and skin contact. In case of contact, rinse immediately with plenty of water. In case of contact with eyes seek additional medical advice. Mix in a well ventilated area and avoid breathing powder or dust.
- Never mix with cement or additives other than SCHÖNOX approved products. Observe the basic rules of concrete work. Do not install below 41°F surface temperature. Install quickly if substrate is warm.

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