

## *Screeding of concrete floors with pump*

Pre-conditions

Preparation

Self-inspection

Execution



This **work instruction** is designed for use in detailed planning and preparation of work on construction projects. With thorough planning high levels of personal safety and optimal work apportionment can be achieved at the same time as the work can be organized efficiently and cost effectively.

## New generation of screeding materials

Binders in, for example, Maxit mass is aluminous cement, the filler materials are natural sand and dolomite sand. Further polymers to improve, among other things toughness and buoyancy additives that make them self-leveling are added to reduce the need for hand-leveling and to create a smoother surface.

There are also fiber-reinforced leveling compounds for leveling between 2 and 40 mm in concrete, lightweight concrete, HDF plates, tiles etc.

Slag and fly ash has been replaced by limestone powder. Variations in the replacement material is less than in slag.

### Low pH value

Compared with concrete, floor screed materials have a lower pH value. Alkaline moisture damages the overlying adhesives and carpets, which in turn can give rise to emissions. A lower pH value means an approximately 100 times lower concentration of aggressive alkaline ions. Thus, it is better with a rug on a leveled floor than directly on concrete.

### Normal Dehydration:

Normal rate of screed drying = 1 cm / week.

### Self Dehydration:

Some are "self-drying", ie, the added water is chemically bound . You then get a separate dehydration allowing screed gets a high surface strength.

This means that in practice it is possible to lay the screeding in an early stage of the project. RH 90-95 % without risking damage to the coating provided the underlying concrete slab has dried out to RF 85-90 %.  
(According Maxit)

Safety — Risk assessment

Work activity & Problem	P	C	Risk= P*C	Action
Slips, trips	30	5	150	Check surface level differences etc.
Cluttered workplace =Twist / fall injuries	10	15	150	Regular tidying
Splashes, eye injuries	30	1	30	Protective goggles
Overloading, stripping or handling of pump hose	30	1	30	

Probability = P  
Consequence = C  
Risk = P \* C

**Assessment of probability**  
 P = 0,1 Very unlikely (<1 times/10 years)  
 P = 1 Unlikely (1 times/10 years)  
 P = 3 Low probability (1 times/3 years)  
 P = 10 Relative probability (1 times/year)  
 P = 30 Probable (1 times/month)

**Assessment of consequences**  
 C=0,5 Trifle  
 C=1 Tiny ( 1 - 2 days sick leave)  
 C=5 Small ( 3 - 7 days sick leave)  
 C=15 Tactile ( 8 - 29 - " - )  
 C=70 Severe (30-299 - " - )  
 C=500 Very severe (>300 - " - )

*Text from the Working Environment Authority's brochure Safer Construction Work*

## **Personal Protective Equipment § 71**

Safety helmet and safety shoes shall be used unless it is clearly unnecessary.

Other personal protective equipment such as eye protection, hearing protection and gloves when required.

## **Beware of hidden dangers! § 60**

Surfaces upon which one is walking should be of sufficient strength so that one does not fall through.

Surfaces that do not have adequate bearing capacity should be cordoned off and marked out unless it is clearly unnecessary. If you still have to work in an area with poor bearing capacity this requires special precautions.

## Check the surface regarding:

- Temperature
- Humidity
- Smoothness
- Cleanliness

## Logistics

How should the screeding compound be transported to the installation site?

## Underfloor heating ?

Turn off 24 hours prior to laying and consult with the manufacturer of the screeding compound as to when it can be turned on again. (A stepwise increase of 5 degrees per day up to operating temperature.)

## Equipment and materials

**Equipment**

- Bucket and brush for primer
- Knife
- Pump with hose
- Large trowel for smoothing
- Roller for evening surface

**Materials**

- Primer (as required)
- Side forms of adhesive foam strips
- Leveling compound

The compound is here pumped up from the car with a mixer. Note the filling with bag which is going on.



## Template &amp; instructions

No	Check	Method or equipment	Frequency	Result	Date Signature	Deviation/Remedy Approval/Non-A
1	Surface	Smoothness				
2	Screeding compound / liquid filler	Quality				
3	Tolerances before pouring					
4	Humidity test					
5						
6						
7						
8						
9						

## Control Instructions:

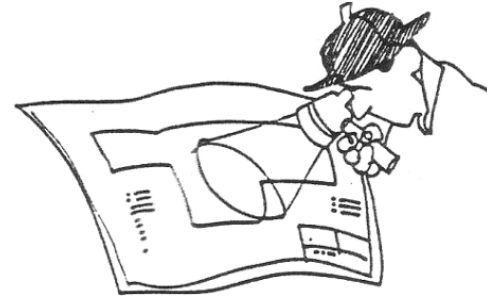
Checking the quality of materials of the screeding compound. Moisture proofing.

Moisture measurement in collaboration with the controller.

Survey of the subfloor prior to application regarding tolerances and camber.

## Quality criteria for the project and the product

- Study Drawings, Specifications and Inspection planning
- Think through the alternative **methods of production** and handling of materials, tools etc. that can meet the requirements



### *Pay particular attention to*

- Check in the specification and the drawings the slope and smoothness required
- Do not carry out screeding if the base does not comply with the specification
- Follow the manufacturer's instructions concerning mixing and laying
- Take appropriate measures in cold weather





The surface should be primed as required  
and foam side forms mounted



The surface is divided into suitable stages



One begins preferably furthest away and work “outwards”.

The hose is long and heavy.





By rolling mass with a 'grid-roller' the surface smoothed out and air bubbles removed.

