

## PsB - POLYSTYRENE CONCRETE FOR SLOPING LAYERS OF ROOFS

**Modifications: PsB 40, 50, 60 / CEM II 32,5 R**

**Data Sheet No. 125**

**Product:** Pasty cement mixture lightened with polystyrene particles produced in SIRCONTEC MS 1000 machine in the construction site.

**Utilization:** Flat roof sloping layers, filling and levelling layers of floors in various constructions, filling dead spaces. PsB 60 modification also for levelling layers of profiled roof covers with the gradient up to 15°. If used in a floor structure, a specified bearing layer is applied on the PsB layer.

Utilization of PsB modifications according to the temperature of both the atmosphere and the structure in the place of application and the capability of gradient forming:

PsB		40	50	60
Application temperature	°C	above +15	above +8	above +5
Walkability at 20°C	hours	max. 72	max. 36	max. 24
Min. / max. application thickness of PsB material	mm	60/1000	55/1000	50/1000
Ability to form gradient up to	%	2	5	10
Pumping head achieved by SIRCONTEC pumps	m	80		

**Composition:** Cement, water, crushed polystyrene (EPS) - recycled, EPS pearls, admixtures, additives. Dosing of individual components is defined in SIRCONTEC manufacturing procedures. Instructions and recommendations of SIRCONTEC company must be followed in production and application.

**Properties:** Pasty substance with excellent capability to maintain a required shape, possibly flatness. It perfectly fills in uneven spaces, processing is easy. Thermo-insulation properties are excellent, the surface is compact. Depending on the type of application, the treatment method and its gradual loading, uncontrollable shrinking cracks may appear in PsB during hardening, sometimes even exceeding dilatation sections. These shrinking cracks are not its defect.

**Base:** Reinforced concrete slab, ceramic ceiling, moisture stop, trapezoid metal sheet, corrugated eternit, other absorbing and non-absorbing bases, various types of coat roofing. Absorbing bases must be separated with a foil; on silicate bases a penetration agent or additional dampening must be applied. The base must be leakage proof.

**Technical data:**

PsB		40	50	60
Density after 28 days	kg/m <sup>3</sup>	380 - 450	450 - 550	550 - 650
Natural moisture content (% by weight)	%	8 - 12		
Compression strength after 28 days / 20°C	MPa	0,5	0,8	1,1
Thermal conductivity of the dry substance - λ	W/mK	from 0,10	from 0,12	from 0,14
Inflammability	class	B1 - hardly inflammable		

The Technical Data apply to PsB produced from CEM II 32,5R class cement.

When applying a coat covering on the PsB layer, requirements of construction physics related to the roof deck must be considered. Technical Certificate: TSÚS SK TP-14/0118

**Quality control:**

The quality control of the produced PsB is subject to Control Procedures and Inspection and Test Plan. Samples of the material being produced are assessed by an authorised person - see Technical Certificate TSÚS SK TP-14/0118, its preview can be downloaded from [www.sircontec.com](http://www.sircontec.com). PBG is produced from certified materials.

**Processing: 1. Base:**

Before starting the work it is necessary to verify its compactness and dampness. The base must be clean, without cement milk and grease residues, without efflorescence, and its particles must not become loose. Bulging parts, any untightness and still water must be removed from coat covering.

**2. Application:**

Fresh PsB mixture is delivered to the place of application by a pump. While being pumped it is evenly spread over the surface. When making a gradient layer, in order to increase the thermal resistance, it is possible to incorporate an EPS board in its bottom part. The fresh mixture is processed using a straight edger followed by smoothing with a smoothing trowel while permanently checking thickness of the material being poured.

**3. Maturing:**

The PsB mixture, after having been processed, behaves like a standard cement mixture. In setting and hardening stages the PsB can be deteriorated due to excessive load and other improper use.

Surface of the PsB mixture must be protected against premature and uneven evaporation of the batch water resulting from direct sunlight, draught and wind.

Polystyrene concrete is not designed as the final surface layer in floor structures. Until the next layer is applied, it must be protected in a proper way.

**4. Site facilities for using MS 1000/m machine:**

Electric connection: 400 V/50 Hz, line protection min. 32 A, "C" design of the circuit breaker

Drinking water supply: min. 3/4" yielding min. 2 l/sec

Access: Access road must be passable for a van and permanent accessibility is needed.

**Cleaning:** Tools are cleaned with pure water. Dirty surfaces can be cleaned by wiping off the fresh mixture or removing the hardened mixture mechanically.

**Safety and hygiene:**

It has an alkaline reaction in the fresh state. Eyes and skin must be protected during work. Wash off the affected place with pure water immediately. When complications occur, find medical help immediately. While in the fresh state it must be protected from access of children. The mixture is hygienically harmless after having matured.

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