

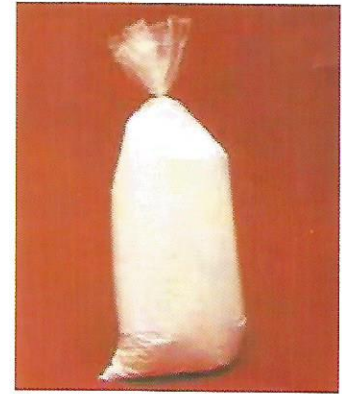


STYROCELL are expanded polystyrene beads of styrene base that come in loose form. These are packed in 250 litre polythene bags and are used essentially for light weight concreting. A number of light weight aggregates are used for roofing screeds including vermiculite and foamed clays or silicas, However, practical trials have shown that **STYROCELL** pre-foam, due to its spherical, multicellular, semi-rigid structure, confers superior screeding properties. (Weight 2.8 Kg / bag approximately)

STYROCELL FOR LIGHT WEIGHT CONCRETE

STYROCELL pre-foam brings the following advantages to the concrete matrix.

- Excellent insulating properties
- Exceptionally light weight and hence high yield
- A closed cell structure resistant to water
- Free flow in pumping equipment
- Rapid drying



ROOFING SCREEDS

Light weight concrete roof screeds are used to provide controlled rain drainage from flat concrete roofs by varying the horizontal level. Light weight aggregate is mixed on site with cement and water and perhaps a small proportion of sands. The resultant screed is transferred to the roof where it is trowelled to the various 'falls' required. A 'cement slurry' of 1 cm thickness is applied to cover the above mix before the final setting.

*The low water absorption of **STYROCELL** enables lower water rations to be used in formulating the concrete screed. This in turn leads to faster setting, lower shrinkage and higher strength development. A further benefit is that at screed densities of 500 - 1600 kg/m³ **STYROCELL** pre-foam will provide superior thermal insulation.*

METHOD

MATERIAL REQUIRED :

- (a) **STYROCELL** beads
- (b) Normal cement
- (c) All forms fine aggregates (sand)
- (d) Admixture FEVICOL GLUE / EQUIVALENT
- (e) Water

Mix design : Given overleaf for 500, 800, 1000 Kg/m³. Other mix designs on request.
Recommended range 500 - 1600 kg/m³.

MECHANICAL PROPERTIES OF STYROCELL CONCRETE

Density 1/kg m ³	Compressive strength a/MPa		Flexural strength a/MPa		Elastic modulus ^c E/MPa
	Max.	Mean ^b	Max.	Mean ^b	
200	0.3	0.3	-	-	-
400	1.0	1.0	0.7	0.5	0.8 x 10 ³
600	2.5	2.2	0.9	0.7	1.0 x 10 ³
800	4.4	3.9	1.1	0.9	1.3 x 10 ³
1000	8.3	5.9	1.5	1.5	2.9 x 10 ³
1300	-	8.8	-	2.5	-
1600	-	17.7	-	2.9	-

a Measured in accordance with DIN 1048

b Typical for production from mixes formulated for minimum thickness

c In compression

DESIGN MIX OF LIGHT WEIGHT SCREED

REQUIREMENT FOR 1 M3 SCREED

	(1000 kg/m ³)	800 kg/m ³	500 kg/m ³
Cement (kg)	310	310	330
Sand (kg)	610	410	110
STYROCELL beads (liters)	530	640	800
Fevicol Wood Glue / Equivalent	2 - 3	2 - 3	3 - 4
Water (litres)	180	170	150
Wet density (approx.) (kg/m ³)	1100 - 1150	900 - 925	650 - 700
Dry density after 28 days (approx.) kgs/m ³	975 - 1035	750 - 825	500 - 525

APPLICATION :

- Insulation of flat roof, Bathrooms.
- Insulating surfaces of factories, dwellings and farm buildings.
- Industrial insulation where strength and fire resistance are also required.
- Precast components
- Insulation of road pavement subgrades.

