

Polyphen[®] is a rigid thermal insulation foam, which combines good mechanical properties with high fire resistance. It can be used in a wide range of applications including sandwich panels, lagging of pipes, ducts, and tanks as well as residential and commercial general construction. 2023-r2

Comments with regard to potential reuse and recycling of FR50 and FM40 blocks



During the recycling process gentle crushing at low rpm is optimal

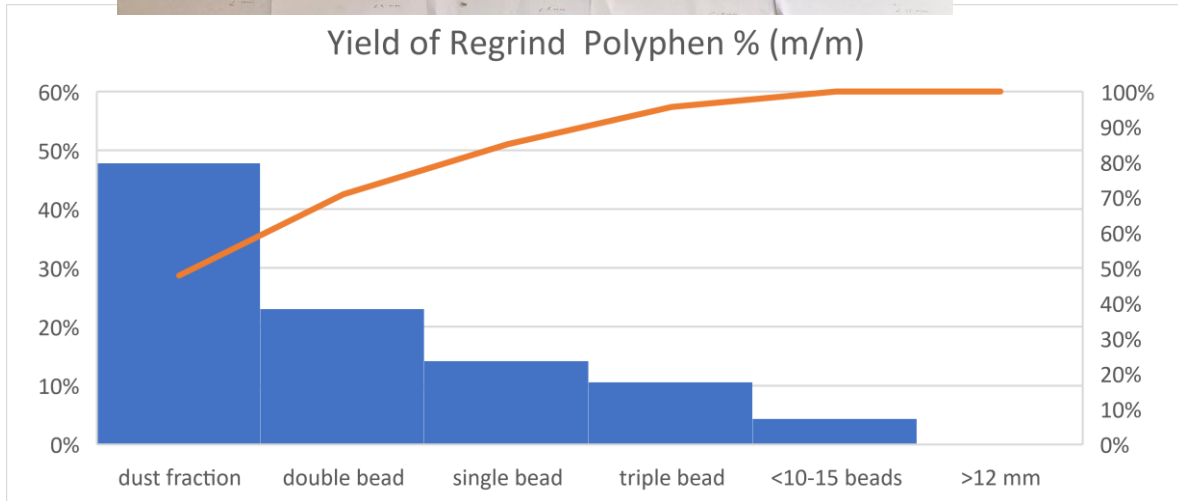
After grinding, one can see dust on the lower side of the picture, the single and double beads in the middle and small lumps with 10 beads on the upper side of the picture. Separation is easily done with gentle crushing. Powder can be sieved off easily and collected and be reused in the Polyphen[®] main



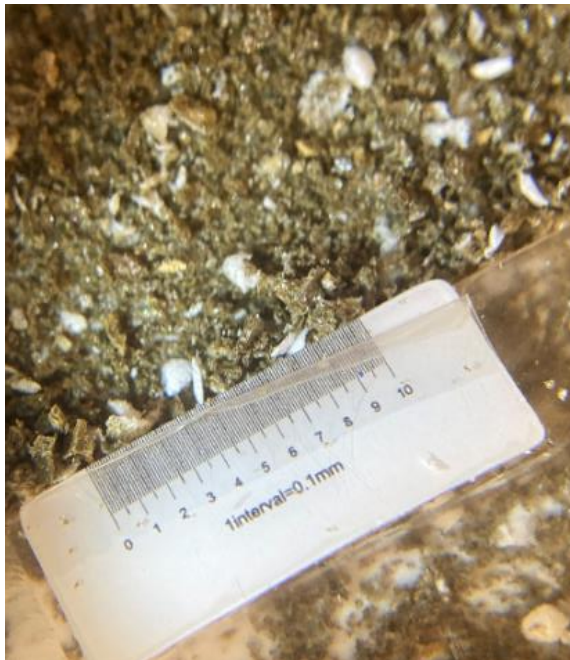
recipe, the loose beads are suitable for shape moulding flooring parts as rEPS (recycle)

The size of the screen in the grinder determines the maximum size of the regrind. In this configuration the max size is 12 beads adjoining, <12mm in total.

Single, double and triple EPS beads form about 58% of the mass, particle agglomeration up to 10-15 beads the remainder. This can be further optimised by selecting another screen. These loose EPS beads are free of blowing agent and is easily added up to 20% m/m with virgin EPS in shape moulding products for use in voluminous concrete flooring parts.



Product after grinding



Details of the dust fraction

The Polyphen® dust and flakes (48% of the weight) can be added back as a dry neutral powder in the Polyphen® recipe mix. Adding Up to 10% did not show any negative effects on reactivity of the process and saved the use of new virgin raw materials.

Conclusion: Polyphen® product is suitable to be 100% recycled.