

The recycling story of EPS, EPP and similar foam materials (EPE, Arcel etc.):

EPS = Expandable polystyrene (foam).
EPP = Expandable polypropylene (foam).

PS = Polystyrene in its plastic form.
PP = Polypropylene in its plastic form.

The EPS/EPP foams are valuable materials and the highest value can be regained by using them in the form of foam - and NOT transform them into plastic. Why?

Keeping the material as foam:

Advantages: By granulating (grinding) the foams into individual beads and introduce them back into the production with new foam replaces new beads. After subtracting the handling and energy costs, you regain 80-90% of the value.

Disadvantages: The material must be clean enough to mix into the production of new foam parts, but in practice 80-90% of all EPS/EPP scrap material is good enough.

You need a production of new foam items – e.g. packaging or insulation – to recycle the beads by mixing it with new foam beads.

KBM can supply all steps of this process from granulation (grinding) to mixing the materials again. Including storing it in silos.

Transforming the foam material into plastic:

In some cases recycling of waste products as foam is not possible. If:

- The transportation costs are too high to bring it to a foam moulder.
- The material is not clean enough. E.g. fish boxes, boxes with soil etc.

In these cases foam parts are compacted into heavy blocks. This solves the transportation problem and reduces the costs.

Many plastic recycling companies around the world can take compacted foam (e.g. from compacted EPS boxes) and extrude it into e.g. PS. The PS can then be sold to PS moulders to make general plastic products – like picture frames etc.

KBM offers a wide range of STYROCRUSHER crushers and STYROPACTOR compactors to handle the waste where it occurs (e.g. by a fish processing company or a large supermarket).

Advantages: Can be used where the transportation costs are too high.

Can be used with non-clean material to transport it even longer to a recycler who can clean it during the extrusion process into PS.

Disadvantages: The regained value is lower. Typically the general price for regained PS is only 10-20% of the foam price (depending on location and country). The transportation cost, extrusion costs etc. are costly and reduce the general value obtained.



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