polytives

*b*FI

Use of PCR extrusion grades in injection moulding

How to use polymers from post-consumer sources and still achieve first-class results

Use case
When using post-consumer grades, the quality usually does not reach that of a prime material.
To still be able to use the advantages of recycled materials, additives can help to bring the used plastic to a 'higher level'. This is shown in the following use case by Pekutherm Kunststoffe GmbH, SITRAPLAS GmbH and Polytives GmbH.

What was the aim?
Polymethyl methacrylate (PMMA) sheets were collected and sorted using a process that ensures the purity of the material. This base recycling process initially resulted in a grade that was suitable for extrusion processes.
By adding Polytives' polymeric additives this material was brought to the quality level for injection moulding. The melt flow index was massively increased, without affecting the base properties of the r-PMMA.
Previous recycling became upcycling.

What does that mean for plastic converters?
As many recycled materials are not that high in quality but the CO_2 footprint needs to be cut and consumers as well as partners keep asking for solutions to be more sustainable, this is one of them.

Figure 1: Use of polymeric additive *b*FI A 3745 with recycled PMMA; influence on melt volume flow rate (MVR).

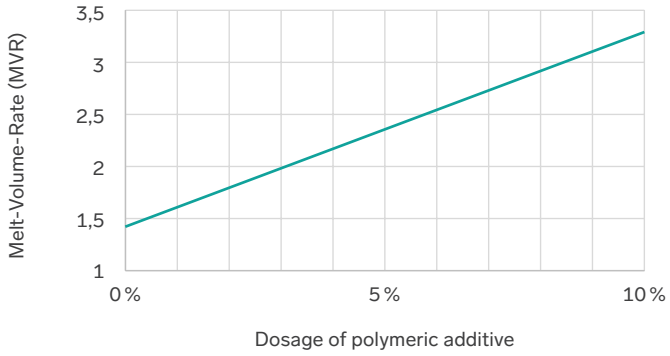
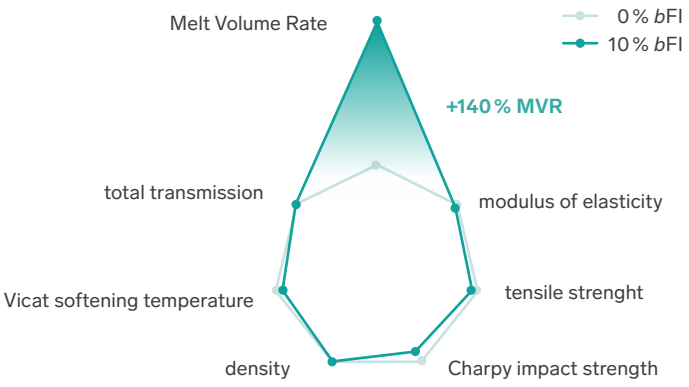


Figure 2: Spider Chart of r-PMMA and r-PMMA-*b*FI-A-3745-compound. The changes in properties except the MVR are negligible.



Give it a try, get in touch!

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