

Beki-Shield[®] stainless steel fibers: efficient filler materials for conductive plastics



Low surface resistance



High dB shielding



Why choose Bekaert?

With more than 20 years experience, Bekaert is the world's leading manufacturer of very thin metal fibres made of stainless steel and other alloys. Based on our metal fibre technology, we market innovative products and solutions with high added value for the customer, solving problems in various industrial applications.

Imagine the possibilities:

By adding Beki-Shield® to a plastic compound, the fibers will create an electrically conductive network in the moulded parts. This will act as a shield against Electromagnetic Interference and Electrostatic Discharge, or will prevent electrostatic charging of components.

Some applications:



Beki-Shield® prevents electro-magnetic interference in LCD displays



Beki-Shield® in plastic wheels prevents the charging up office chairs, luggage carts, ...



Beki-Shield® prevents the charging up of fuel filter housing by fuel

Product range

Beki-Shield® stainless steel fibres are available as a continuous bundle (Beki-Shield® BU), and in chopped fibre form. The chopped fibres, called Beki-Shield® GR, are bound together with polymeric binders specific for various polymer resins. They are concentrates of stainless steel fibres, designed for easy dispersion into the polymer matrix.

Beki-Shield® BU



Beki-Shield® GR



Plastics with Beki-Shield® stainless steel fibres are also available as dry blend or melt compound, from a worldwide network of plastic compounders*.

(*) a list of compounders is available on request

Discover the benefits

High efficiency

Very low concentrations of Beki-Shield® are sufficient to achieve high EMI Shielding and ESD protection, which makes it also very cost-effective. Typical concentrations and their performance are listed below.

Volume % fibres	Weight % fibres*	Volume resistivity (ohm.cm)	Performance (30-1000 MHz range of shielding)
0,25 - 0,5	4	< 10 ²	ESD protection
1	8	0,5 - 2	30 - 50 dB EMI Shielding
1,5	12	0,1 - 0,5	50 - 60 dB EMI Shielding
> 1,5	15	< 0,1	> 60 dB EMI Shielding

(*) suppose density plastic = 1

Colouring possible

Due to the low concentrations required, the colouring of the compound is hardly affected. Most colours can be matched, eliminating the need for a secondary painting operation.

Easy to mould

Plastic compounds with Beki-Shield® are easy to mold using standard mould designs. Beki-Shield® also does not change the shrinkage of the parts or causing extra wear to the moulding machine.

Recyclable

Plastic parts with Beki-Shield® are easy to recycle through regrinding. Up to 20 % of reground materials can be mixed with 80 % of new conductive compounds.

Little influence on plastic characteristics

Since the required concentration of stainless steel fibres is low, the influence of the mechanical and physical properties of the matrix polymer is limited.

Being near to you is central to the Bekaert strategy. No matter where in the world there is always a Bekaert representative at your disposal to discuss the possibilities of Beki-Shield® for your specific application.



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