

DATASHEET

Technical specifications

The following specifications represent the standard Beki-Shield® GR90 range. Contact Bekaert to discuss application specific requirements like coatings and compatibility.

Composition of grain	90 % SUS302 (EN 10088-1 : 1.4310)	
	10 % Thermoplastic polyester sizing	
Diameter of fibers	8 µm	±10 %
Length of fibers	5 mm	±10 %
Processing temperature	120 - 290°C	
Compatible with	general applicable	



GENERAL DESCRIPTION

Beki-Shield® is a stainless steel filler material used in plastic compounds to provide electrical conductive properties. They can be used as a master-batch and have been designed for easy dispersion into the polymer matrix for both injection molding (dry blend) and for compounding. Beki-Shield® is also available in rovings.

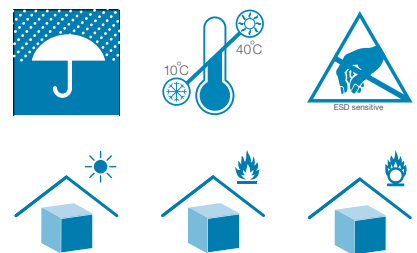
Dosage information

Volume % fibers	Weight % GR90	Bulk resistivity (Ohm.cm)	Performance ^(**)
0,25 - 0,50	4,5	10 ⁸ -10 ³	ESD protection
1	9	70	30-50 dB EMI Shielding
1,5	12	15	50-60 dB EMI shielding
> 1,5	> 12	< 1	> 60 dB EMI Shielding

(*) resin density: ± 1 g/cm³ - stainless steel fiber density: ± 8 g/cm³

(**) 30-1000 MHz shielding range

Storage instructions



Pre-drying conditions

Master Batch (Bekishield®)

- Pre-drying is not required for the GR90 when storage conditions are respected.
- The drying temperature should be at room temperature (max. 40°C).

BASE Polymer and dry blend

Mix the master batch after the virgin polymer has dried.

Processing conditions

Magnets for metal-separation in the hopper and other places should be removed. Avoid fiber breakage during processing by maintaining a high level of conductivity.

Injection molding

This can be achieved by fine-tuning the injection pressure, screw speed, temperature and injection speed.

- The processing temperature should be set in the upper range of the recommended processing temperature of the virgin polymer.
- Preferable the injection pressure is as low as possible or at least below 850 bar.
- Sharp corners should be avoided (also for the gate).
- Ideally central injection is used, to obtain equal flow lengths.
- Preferable open gates are used.
- Screw speed and back pressure should be adapted to aim for good dispersion.
- Do not use a higher screw speed and back pressure than needed.

Compounding

This can be achieved by fine-tuning the specific mechanical energy and the screw configuration.

- Avoid the use of flow back elements.
- Avoid the use of additional mixing elements.
- Add the GR90 at the end of the screw to limit the exposure to shear forces.
- Limit the specific mechanical energy as much as possible.

For additional information on processing parameters, do not hesitate to contact Bekaert.



Contact us

More
Information?

bftinfo@bekaert.com
metalfibers.bekaert.com

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