

DATASHEET

Technical specifications

The following specifications represent the standard Beki-Shield® GR75 range. Contact Bekaert to discuss application specific requirements like coatings and compatibility.

| | | |
|------------------------|-----------------------------------|-------|
| Composition of grain | 75 % SUS302 (EN 10088-1 : 1.4310) | |
| | 10 % Aromatic Polyhydroxyether | |
| | 15 % PA6 coating | |
| Diameter of fibers | 8 µm | ±10 % |
| Length of fibers | 5 mm | ±10 % |
| Processing temperature | 245 - 315°C | |
| Compatible with | PA6, PA6.6, PA | |



GENERAL DISCRIPTION

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.

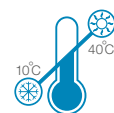
Dosage information

| Volume % fibers | Weight % GR75 | Bulk resistivity (Ohm.cm) | Performance ^(**) |
|-----------------|---------------|----------------------------------|-----------------------------|
| 0,25 - 0,50 | 5 | 10 ⁸ -10 ³ | ESD protection |
| 1 | 11 | 70 | 30-50 dB EMI Shielding |
| 1,5 | 15 | 15 | 50-60 dB EMI shielding |
| > 1,5 | > 15 | < 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 GR75 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 GR75 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?

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