VISCOSPEED PRODUCT DATA SHEET

Processing and dispersion promoters for highly filled compound

Typical Properties

| | VISCOSPEED | VISCOSPEED HP | VISCOSPEED HT |
|------------------|------------|---------------|---------------|
| Drop melting poi | nt 100°C | 95°C | 115°C |
| Density | 0.94 | 0.94 | 0.94 |
| Polarity | Medium | High | Medium |
| Flowability | Very High | High | High |
| | | | |
| Suitability for | | | |
| HFFR cables | +++ | +++ | ++ |
| ACP | +++ | ++ | ++ |
| TPO membranes | +++ | +++ | + |
| Semi-con | ++ | ++ | + |
| Advantages | | | |

- Acceleration of dispersion of all kind of filler in any kind of equipment
- · Strong improvement of processability
- Synergistic with maleinated coupling agents
- Improved anti-dripping behavior

VISCOSPEED in Cable Compounds

- Allows processing of silane-based crosslinkable HFFR compounds on standard twin-screw extrusion lines (XL-HFFR)
- Anti-dripping effect suitable for EN 50399 (CPR)
- Neutral to beneficial for mechanical properties, no detrimental impact on aging behavior

VISCOSPEED in ACP

- Suitable ingredient for FR ACP A2 class
- · Increase in peeling strength
- Allows for use of recycled PE with low MFI

VISCOSPEED in Semi-conductive Compounds

- Yields stable, non-sticky compound granules
- Less structural break-down of conductive filler yields high conductivity
- Best suited for strippable insulation shield

VISCOSPEED in TPO Roofing

- Well-suited for highest concentration of n-MDH masterbatch
- · Good behavior in accelerated aging tests
- Synergistic in fire tests through char forming

Application

- HFFR compounds for cables based on Aluminum Hydroxide (ATH) and Magnesium Hydroxide (MDH)
- Aluminum Composite Panels (ACP) for construction
- Semi-conductive compounds for power cables
- Intumescent flame retardants, e.g. phosphorous based
- Thermoplastic polyolefin (TPO) roofing membranes

Function

At a dosage of 1–2 % VISCOSPEED products are excellent processing aids for highly filled composites based on inorganic fillers such as ATH, MDH or carbon black.

By use of VISCOSPEED the viscosity of the composite is reduced. At the same time the overheating in the extrusion process is minimized. This enables significantly higher processing speeds even at high mineral loadings.

Form of Delivery, Packaging and Storage

VISCOSPEED is shipped as dust-free powder (avg. 500 μm) or drop granulate (4-6 mm) in PE bags of 25 kg net. The product is palletized (preferably 750 kg net) on CP2-pallets (1200 mm x 800 mm) which are stretch wrapped. Big bags of different sizes up to 1000 kg net palletized on CP3-pallets (1140 mm x 1140 mm) are also available.

The product shall be stored in its original packaging at room temperature in a dry place. It must not be stored together with amines. Avoid direct sun radiation and water contact.

Safety and Environment

VISCOSPEED has not been classified as hazardous materials in accordance with the Regulation (EC) No. 1272/2008 (CLP/GHS) and therefore it does not require marking. The product does not contain heavy metals. It is insoluble in water and has no harmful effect on fish and bacteria. Disposal of the product is to be carried out in accordance with the local regulations.

Please refer to the Safety Material Data Sheet for further safety relevant information.

Innospec's ESG Program



Prolongs lifetime of equipment.



Manufactured on a site using energy sourced from renewables.

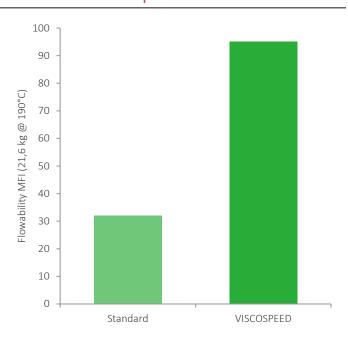


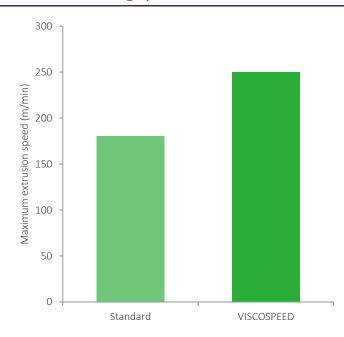
VISCOSPEED PRODUCT DATA SHEET

... case studies from our customers

Case 1: ACP FR-Compound with 78% MDH

Case 2: Processing speed in XL-HFFR Cable





| | Standard | VISCOSPEED |
|------------------------|----------|------------|
| VISCOSPEED | _ | 2 |
| LLDPE-g-MA | 3 | 1 |
| LLDPE MFI=50 | 19 | 19 |
| MDH (d50 = $20\mu m$) | 78 | 78 |
| Peeling strength | > 70 Ncm | > 70 Ncm |

| | Standard | VISCOSPEED |
|----------------------|----------------|----------------|
| VISCOSPEED | _ | 3 |
| Additives | 2 | 2 |
| Resin | 43 | 40 |
| Syn. ATH | 55 | 55 |
| MFI (150°C, 21,6 kg) | 1,6 g / 10 min | 5,9 g / 10 min |

For more information contact us today: leuna@innospecinc.com
Contact details for all Innospec Sales managers are available on our website: www.viscospeed.com

Innospec

Innospec is a global specialty chemical company. We provide innovative products, combined with excellent customer service and technical support. Our outstanding R&D capabilities have meant that we've been successful in bringing new technologies to market which allow our customers to improve their products and develop sustainable solutions for their chosen markets. Our business has a Sustainability strategy and we are investing and supporting products which help to reduce the carbon footprint of the global road, rail, marine and aviation transportation sectors and industrial applications.

We recognize that being a responsible business is key to our continued success. For us, it is an ongoing journey of progress and improvement.



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