Additives for HFFR Compounds

PERFECT DISPERSANTS, DRY SILANES AND CROSSLINKER MASTERBATCHES FOR HIGHLY FILLED HFFR COMPOUNDS

DISPERSANTS

TEGOMER® TEGOPREN® DRY SILANE MASTERBATCHES ACCUREL® DS GRADES (AMEO; GLYMO; VTEO) CROSSLINKER MASTERBATCHES ACCUREL[®] CL GRADES (TMPTMA; TAC; TAIC)

- Excellent flame retardance classification, due to the better distribution of the HFFR fillers
- Smooth cable surfaces with perfect printability
- Reduced pressure built-up and amperage draw during extrusion
 Outstanding distribution and processing also of untreated MDH
- and ATH grades
- Fast exfoliation of nano clays
- Highest output by optimized melt rheology
- Improved crosslinking density
- Increased chemical resistance and mechanical properties
- · Cost reduction due to lower peroxide demand
- · Increased heat distortion temperature and hot set behavior
- · Better embedding of fillers and flame retardants

ADDITIVES ARE SUITABLE FOR

- E-beam and peroxide induced crosslinkable compounds
- Low and medium voltage cable compounds
- VC cable compounds
- Silane crosslinked compounds produced by one (Monosil) or two step (Sioplas) process









DISPERSANTS

| DISPERSANT GRADE | PRODUCT PROFILE | POLYMERS | | | | | |
|--------------------------------|---|----------|----|------|------|------|-----|
| | | PE/EVA | PP | X-PE | X-PP | EPDM | EMA |
| TEGOMER° FR 100 | Solid organo-modified siloxane (OMS) for highly filled HFFR compounds | ٠ | • | • | • | • | |
| TEGOMER [®] FR 120 | Solid OMS for highly filled HFFR compounds, especially suitable for inorganic FR | • | • | • | • | • | |
| TEGOMER° 6264 | Solid OMS for highly filled HFFR compounds | • | | | | | • |
| TEGOMER [®] V-Si 4042 | Liquid, solvent free OMS recommended for thermoplastics and peroxide curing systems | • | • | • | • | • | |
| TEGOPREN° 6879 | Liquid, solvent free OMS for highly filled HFFR compounds. Excellent embedding of inorganic FR. Improved tensile strength and elongation at break | • | • | • | • | • | |
| TEGOPREN [®] 5885 | Liquid, solvent free OMS, designed for HFFR compounds with nano clays | • | • | • | • | • | |



CROSSLINKER MASTERBATCHES

| ACCUREL [®] GRADE | ACTIVE | POLYMER | APPLICATION |
|-------------------------------|--|---------|--|
| ACCUREL [®] CL 480 M | TMPTMA (Trimethylol propane trimethacrylate) | LDPE | Crosslinkable or peroxide crosslinkable polyolefins, e.g. cables, tubes, pipes and foams. Increased crosslinking reactions over the degradation reactions during irradiation. |
| ACCUREL° CL 370 M | TAIC (Triallyl isocyanurate) | LLDPE | Production of radiation crosslinkable or peroxide crosslinkable polyethylene, e.g. cables, tubes and pipes. Suitable for LLDPE, LDPE and HDPE and EVA or PP. Increased crosslinking reactions over the degradation reactions during irradiation. |
| ACCUREL [®] CL 380 M | TMPTMA (Trimethylol propane trimethacrylate) | LLDPE | Crosslinkable or peroxide crosslinkable polyolefins, e.g. cables, tubes, pipes and foams. Increases the crosslinking reactions over the degradation reactions during irradiation. |
| ACCUREL° CL 460 | TAC (Triallyl cyanurat) | LDPE | Co-agent to increase crosslinking yield of PE, EVA EPDM etc. Production of radiation crosslinkable or peroxide crosslinkable polyethylene, e.g., cables, tubes or pipes. Increased crosslinking reactions over the degradation reactions during irradiation. |
| ACCUREL° CL 770 | TAIC (Triallyl isocyanurate) | PA 6 | Improved heat resistance (e.g. hot set performance) and mechanical properties requested in E-Mobility applications or cable appliance in tunnel or public transport applications. |
| ACCUREL° CL 170 | TAIC (Triallyl isocyanurate) | РР | Production of radiation crosslinkable or peroxide crosslinkable polyolefins, e.g. cables, tubes, pipes and foams. It increases the crosslinking reactions over the degradation reactions during irradiation. |
| ACCUREL® CL 570 | TAIC (Triallyl isocyanurate) | EVA | Production of radiation crosslinkable or peroxide crosslinkable polyolefins, e.g. cables, tubes, pipes and foams. The EVA carrier allows the use of the masterbatch in all polyolefins, e.g. LLDPE, LDPE, HDPE, EVA and PP. |
| ACCUREL® CL 560 | TAC (Triallyl cyanurat) | EVA | Co-agent to increase crosslinking yield of PE, EVA EPDM etc. It is used for the production of radiation crosslinkable or peroxide crosslinkable polyethylene, e.g. cables, tubes or pipes. The active ingredient TAC increases the crosslinking reactions over the degradation reactions during irradiation. |



DRY SILANE MASTERBATCHES

| ACCUREL [®] GRADE | PRODUCT PROFILE | ACTIVE | POLYMER | APPLICATION |
|----------------------------|---|--------------------|---------|---|
| ACCUREL® DS 110 | Highly concentrated "dry silane" masterbatch based on AMEO (3-Aminopropyltriethoxysilane) on PP | AMEO | PP | Works as crosslinker, coupling agent and adhesion promotor. |
| ACCUREL® DS 220 | Highly concentrated "dry silane" masterbatch, based on HDPE and GLYMO (3-glycidyloxypropyltrimethoxysilane) | GYLMO | HDPE | Chemical binding of inorganic materials (e.g. glass, metals, fillers) and organic polymers (e.g. thermo- sets, thermoplastics, elastomers) functioning as an adhesion promo- tor, crosslinker and surface modifier. |
| ACCUREL® DS 310 | Highly concentrated "dry silane" masterbatch based on AMEO (3-Aminopropyltriethoxysilane) on LLDPE | AMEO | LLDPE | Works as crosslinker, coupling agent and adhesion promotor. |
| ACCUREL® DS 320 | Highly concentrated "dry silane" masterbatch, based on LLDPE and GLYMO (3-Glycidyloxypropyltrimethoxysilane) | GLYMO | LLDPE | Chemical binding of inorganic materials (e.g. glass, metals, fillers) with organic polymers (e.g. ther- mosets, thermoplastics, elastomers) functioning as an adhesion promo- tor, crosslinker and surface modifier. |
| ACCUREL® DS 330 | Highly concentrated "dry silane" masterbatch based on LLDPE and VTEO (Vinyltriethoxysilane) | VTEO | LLDPE | For the silane-crosslinking of polyethylene and ethylene copoly- mers in a one or two-step process to improve mechanical properties, abrasion resistance and flame retardant properties of e.g. HFFR cable compounds. |
| ACCUREL° DS 340 | Highly concentrated "dry silane" masterbatch of VTEO (Vinyltriethoxysilane) and a grafting-initiator on LLDPE. | VTEO+ Initiator | LLDPE | Designed for the silane-crosslinking of polyethylene and ethylene copolymers in a two-step process like Sioplas® to improve mechanical properties of e.g. cable compounds such as, heat stability, abrasion resistance tear and crack resistance. |

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