

TABOCAB® CABLE COMPOUNDS



TABOCAB® is a comprehensive range of compounds intended primarily for producing cables for various sectors. This particularly concerns sectors such as construction (incl. CPR), industry, automotive and renewable resources.

HFFR thermoplastic compounds

Properties

The HFFR compound product range is a group of thermoplastic, halogen-free flame retardant, low-smoke and non-toxic compounds based on polyolefins and mineral fillers. These compounds are used to produce cable insulation and sheathing. These compounds are developed to be easy to process and for optimally high productivity. The individual compounds are designed depending on the type of end cable application so that these retain their thermo-mechanical properties and a high level of fire retardancy, and therefore provide a solution with greater protection of people and property in case of fire.

Processing

We recommend that these compounds be processed using low-compression extrusion machines. They can also be processed using screw extruders for PVC, but with the expectation of lower performance. Individual process and technical parameters are given in the specific TDS for the HFFR compounds.

Storage conditions

The compounds must be stored in dry, covered areas at ambient temperatures not exceeding 30°C. The compounds must be stored in their original, undamaged packaging as supplied by the SILON s.r.o. manufacturer. They must not be exposed to moisture, sunlight or thermal radiation. The maximum compound storage period is usually 9 months from the date of manufacture marked on the product packaging.

Packaging

Compounds are supplied in 600 kg and 1 000 kg packaging in octabins on wooden pallets.

HFFR-XL thermosetting compounds

Properties

The HFFR-XL compound product range is a group of thermosetting, halogen-free flame retardant, low-smoke and non-toxic compounds based on polyolefins and mineral fillers, which can be cross-linked using heat or moisture. A catalyst masterbatch is added during the final extrusion together with the main compound (SIOPLAS method). These products are suitable for producing cross-linked insulation or sheathing.

Processing

Before extrusion, the compound must be mixed with the specific quantity of catalyst masterbatch specified in the TDS for the relevant material. Correct processing of silane-grafted compounds with the catalyst masterbatch depends on the speed of extrusion; the faster the material is extruded, the better the results. Any delays, e.g., interruption of production, along with high temperatures, have a negative impact on the quality of processing, which can lead to premature cross-linking. The extruded compound must be cooled in a water bath. We recommend that the cross-linking process take place in hot water or a low-pressure steam bath. Cross-linking is also possible using air humidity. The dependence of the cross-linking kinetics on the thickness of the extruded layer of insulation or sheathing and on the ambient temperature and humidity at the site of storage of the finished product or semi-finished product must be taken into account in such cases. We recommend that these compounds be processed on higher-compression extrusion machines.

The individual process and technical parameters are given in the specific TDS for HFFR-XL compounds.

Storage conditions

The compounds must be stored in dry, covered areas at ambient temperatures not exceeding 30°C. The compounds must be stored in their original, undamaged packaging as supplied by the SILON s.r.o. manufacturer. They must not be exposed to moisture, sunlight or thermal radiation. The maximum compound storage period is usually 6 months from the date of manufacture marked on the product packaging. Once the packaging has been opened, the compound should be processed within several hours, otherwise, the compound may degrade and complicate the smooth production process as a result of moisture absorption.

Packaging

Compounds are supplied packaged in moisture-resistant 20 kg bags on wooden pallets.

XLPE thermosetting compounds

Properties

The XLPE compound product range is a group of polyethylene thermosetting compounds which can be cross-linked using heat or moisture. A catalyst masterbatch is added to the main compound before the extrusion process (SIOPLAS method). These products are suitable for producing cross-linked insulation.

Processing

Before extrusion, the compound must be mixed with a quantity of catalyst masterbatch as specified in the TDS for the relevant material. Correct processing of silane-grafted compounds with the catalyst masterbatch depends on the speed of extrusion; the faster the material is extruded, the better the results. Any delays, e.g., interruption of production, along with high temperatures, have a negative impact on the quality of processing, which can lead to premature cross-linking. The extruded compound must be cooled in a water bath. We recommend that the cross-linking process take place in hot water or a low-pressure bath. Cross-linking is also possible using air humidity. As in the HFFR-XL group, the dependence of the cross-linking kinetics on the thickness of the extruded layer of insulation or sheathing and on the ambient temperature and humidity at the site of storage of the finished product or semi-finished product must be taken into account in such cases.

We recommend that these compounds be processed on higher-compression extrusion machines. The individual process and technical parameters are specified in the relevant TDS for XLPE compounds.

Storage conditions

The compounds must be stored in dry, covered areas at ambient temperatures not exceeding 30°C. The compounds must be stored in their original, undamaged packaging as supplied by the SILON s.r.o. manufacturer. They must not be exposed to moisture, sunlight or thermal radiation. The maximum compound storage period is usually 6 months from the date of manufacture marked on the product packaging. Once the packaging has been opened, the compound should be processed within several hours, otherwise, the compound may degrade and complicate the smooth production process as a result of moisture absorption.

Packaging

The compounds are supplied in moisture-resistant 20 kg bags on wooden pallets.

SILON was founded as a polyamide filament yarn producer in 1950. At present SILON designs, produces and sells polyolefin-based performance compounds and polyester fibres for applications in construction, the automotive industry, for hygienic applications and for general processing as well. We manufacture over 100 thousand tons of products in our factories every year and we trade in over

30 countries worldwide. SILON has been producing high-grade PE-Xb for the pipe and cable market under the brand name TABOREX for over 30 years. In 2019, the company changed the product line name for the cable segment to TABOCAB®. The SILON TABOCAB® cable compound has special properties which are primarily suitable for making fire safety cables. Our portfolio includes cross-linkable

compounds, thermoplastic and cross-linkable HFFR compounds. Development takes place in close cooperation with the customers. Our technical experts assist in choosing the best product for you and support you in setting up the production process. We firmly believe that we will become the preferred partner for finding solutions for your specific needs and requirements.

INTERNATIONAL CERTIFICATION: IATF 16949 | ISO 9001 | ISO 14001

Product Catalogue



SILON is a reliable partner

CONTACT



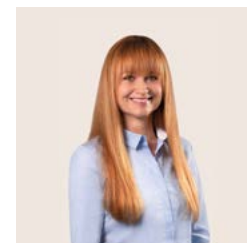
Ingo Fischer

Strategic Sales TABOCAB
t: +49 (0) 2954 924 402
m: +49 (0) 160 9691 4893
fischer@silon.eu



Detlef Lange

Strategic Sales TABOCAB
t: +49 (0) 2902 774 204
m: +49 (0) 160 9055 6857
lange@silon.eu



Veronika Šušová

Sales Team Leader TABOCAB
t: +420 381 621 250
m: +420 605 203 856
susova@silon.eu



Michal Čermák

Senior Researcher
t: +420 381 621 334
m: +420 702 089 445
cermak@silon.eu

cablecompounds@silon.eu | www.silon-cablecompounds.eu

SILON s.r.o., Planá nad Lužnicí | Průmyslová 451 | 391 02 Sezimovo Ústí | Czech Republic | T: +420 381 621 111 | silon@silon.eu | www.silon.eu

TABOCAB® Cable Compounds



SILON Compounds Make Better Cables

Thermoplastic HFFR

| Common basic features | | | | | | | | | Application | | Standards | | | | | | | Typical cable product | Segment | | | | | | |
|-----------------------|--------------------|------------------------------|------------------------|-------------------------|---------|---------------------|--------------|----------------------------|-------------|-----------|---------------------|----------------|-----------------|---------------------|----------------------|------------------|-----------------|--|-----------|--------------|------------|---------|--|--|--|
| SILON product code | Hardness - Shore D | Density [g/cm ³] | Tensile strength [MPa] | Elongation at break [%] | LOI [%] | MFI (150°C/21,6 kg) | halogen-free | flame retardant, low-smoke | Insulation | Sheathing | EN 50363-7 T16, T17 | EN 50363-8 TM7 | IEC 60502-1 ST8 | IEC 60092-359 SHF 1 | VDE 0207/24 HM2, HM4 | VDE 0250/215 HM5 | VDE 0207/24 HJ2 | Typical cable product | | | | Segment | | | |
| | | | | | | | | | | | | | | | | | | Automotive | Renewable | Construction | Industrial | | | | |
| TABOCAB TPG 001 | 45 | 1,52 | 11 | 160 | 36 | 5,5 | • | • | • | • | • | • | • | • | • | • | • | Sheath of cable N2XH, NHXH, J-H(St)H | • | • | • | • | | | |
| TABOCAB TPG 002 | 44 | 1,52 | 13 | 180 | 37 | 7,5 | • | • | • | • | • | • | • | • | • | • | • | Sheath of cable N2XH, NHXH, J-H(St)H | • | • | • | • | | | |
| TABOCAB TPG 003 | 50 | 1,51 | 12,5 | 270 | 37 | 8,5 | • | • | • | • | • | • | • | • | • | • | • | Insulation of cable J-H(St)H, LIHH, H05 Z1Z1 | • | • | • | • | | | |
| TABOCAB TPS 004 | 45 | 1,52 | 12,5 | 180 | 42 | 4,8 | • | • | • | • | • | • | • | • | • | • | • | Sheath of CPR cables - power, control and signal | • | • | • | • | | | |
| TABOCAB TPS 005 | 50 | 1,55 | 11 | 160 | 40 | 4 | • | • | • | • | • | • | • | • | • | • | • | Sheath of UV stabilized cables - power, control and signal | • | • | • | • | | | |

Cross-linkable compounds

| Common basic features | | | | | | | | | | Application | | Standards | | | | | | | | | | | | Typical cable product | Segment | | | | | | |
|-----------------------|----------------------------------|--------------------|------------------------------|------------------------|-------------------------|------------------|---------------|--------------|----------------------------|-------------|-----------|-------------|---------------|-------------|---------------|----------|--------|------------|----------|-----------|------------|---------------------|--------------|-----------------------|---|--------------|------------|---------|---|--|--|
| SILON product code | Recommended Catalyst masterbatch | Hardness - Shore D | Density [g/cm ³] | Tensile strength [MPa] | Elongation at break [%] | MFI | | halogen-free | flame retardant, low-smoke | Insulation | Sheathing | IEC 60502-1 | IEC 60092-351 | HD 604 2X11 | VDE 0276 2X11 | ISO 6722 | LV 112 | SAE J 1128 | EN 50618 | IEC 62930 | EN 50363-5 | VDE 0276 T.626-4-Fm | HD 626.4F S1 | Typical cable product | | | | Segment | | | |
| | | | | | | Value [g/10 min] | Method | | | | | | | | | | | | | | | | | Automotive | Renewable | Construction | Industrial | | | | |
| TABOCAB SXI 004 | CM 005 - CM 008 | 58 | 0,926 | 20 | 500 | 2,0 | 190°C/5 kg | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | Insulation of construction and industrial cables | • | • | • | • | | |
| TABOCAB SXI 005 | CM 005 - CM 008 | 48 | 0,925 | 15 | 450 | 2,5 | 190°C/5 kg | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | Insulation of construction and industrial cables | • | • | • | • | | |
| TABOCAB SXI 006 | CM 012, CM 013 | 50 | 0,925 | 20 | 500 | 3,0 | 190°C/5 kg | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | Insulation (CM 012) and XL HFFR sheathing (CM 13) of car cable | • | • | • | • | | |
| TABOCAB SXI 007 | CM 011, CM 012 | 62 | 0,946 | 21 | 700 | 0,9 | 190°C/5 kg | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | Insulation of car cable | • | • | • | • | | |
| TABOCAB SXI 008 | CM 009 | 48 | 0,914 | 21,5 | 700 | 2,2 | 190°C/5 kg | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | Insulation of solar cable H1Z222-K | • | • | • | • | | |
| TABOCAB SXI 009 | CM 009 | 48 | 0,914 | 21,5 | 700 | 2,2 | 190°C/5 kg | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | Insulation of solar cable H1Z222-K | • | • | • | • | | |
| TABOCAB SXG 010 | CM 914 | 55 | 0,980 | 18 | 250 | 1,3 | 190°C/5 kg | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | Insulation and sheathing for aerial bundle cables (ABC) - NFA2X | • | • | • | • | | |
| TABOCAB SXG 011 | CM 010 | 45 | 1,400 | 18 | 250 | 11 | 150°C/21,6 kg | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | Sheath of solar cable H1Z222-K | • | • | • | • | | |

Masterbatches

| Common basic features | | | | | Typical features |
|-----------------------|--|------------------------------|------------------|---------------|--|
| SILON product code | Recommended for cross-linkable compounds | Density [g/cm ³] | MFI | | Typical features |
| | | | Value [g/10 min] | Method | |
| TABOCAB CM 005 | SXI 004-5, SXG 010 | 0,96 | 1,8 | 190°C/2,16 kg | Catalyst masterbatch suitable for XLPE insulation with optimized processing |
| TABOCAB CM 006 | SXI 004, SXI 005 | 0,95 | 10,0 | 190°C/2,16 kg | Highly thermally stabilized catalyst masterbatch for XLPE insulation |
| TABOCAB CM 007 | SXI 004-5, SXI 008-9 | 0,92 | 3,5 | 190°C/2,16 kg | Highly reactive catalyst masterbatch with medium stabilization for XLPE insulation |
| TABOCAB CM 008 | SXI 004, SXI 005 | 0,93 | 3,5 | 190°C/2,16 kg | Standard catalyst masterbatch for XLPE insulation |
| TABOCAB CM 009 | SXI 008, SXI 009 | 0,94 | 35,0 | 190°C/2,16 kg | Highly stabilized catalyst masterbatch for XLPE insulation with sufficient UV protection for solar cable H1Z222-K (EN 50618) |
| TABOCAB CM 010 | SXG 011 | 0,96 | 40,0 | 150°C/2,16 kg | Highly stabilized catalyst masterbatch for XLPE HFFR sheathing with sufficient UV protection for solar cable H1Z222-K (EN 50618) |
| TABOCAB CM 011 | SXI 007 | 0,93 | 14,0 | 190°C/2,16 kg | Catalyst masterbatch for insulation of automotive T3 cables of small dimensions ≤ 2,5 mm ² |
| TABOCAB CM 012 | SXI 006, SXI 007 | 0,94 | 14,0 | 190°C/2,16 kg | Catalyst masterbatch for insulation of automotive cables T3 of dimensions > 2,5 mm ² |
| TABOCAB CM 013 | SXI 006 | 1,60 | 1,1 | 190°C/2,16 kg | Catalyst masterbatch with HFFR for insulation and sheathing for automotive T2-T3 cables |
| TABOCAB CM 914 | SXG 010 | 1,05 | 4,4 | 190°C/2,16 kg | Standard catalyst masterbatch with UV protection suitable for insulation and sheathing of ABC cables |
| TABOCAB CM 915 | TA1155HD, TA1132HD | 1,05 | 4,4 | 230°C/2,16 kg | Catalyst masterbatch with UV protection flexibility modifier suitable for insulation and sheathing of ABC cables |

ADVANTAGES OF XLPE COMPOUNDS

- Easy processing and high-speed production
- Excellent dielectric properties
- Balance of physical and barrier performance
- Lower compound weight

ADVANTAGES OF HFFR COMPOUNDS

- Excellent fire retardancy performance
- Easy workability
- Produced on high-end Buss technology

