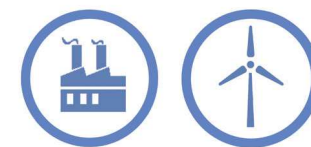


industrial & energy

innovative covering solutions

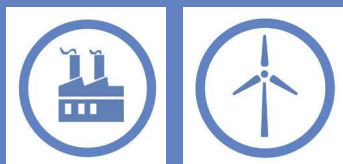




industrial & energy. innovative covering solutions

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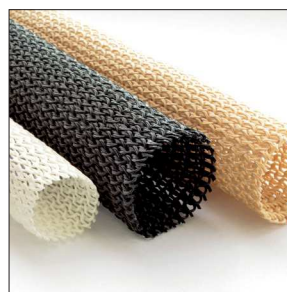
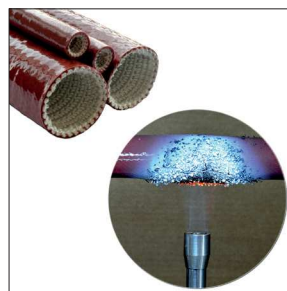


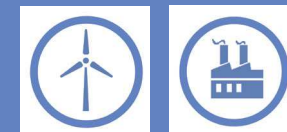
www.relats.com

Relats is a multinational Catalan family company with HQ near to Barcelona that is highly internationalized, which designs and produces a range of products with textile substrate systems for engines, brakes, push pull cables, rubber hoses and metal, among many others. With a presence in four continents across six manufacturing plants (in Catalonia, China, Mexico, Morocco, Vietnam and Romania). Relats Group works with companies that supply the main components of global brands in the automotive industry, aerospace, railway, electricity sector, electrical appliances and renewable energy.

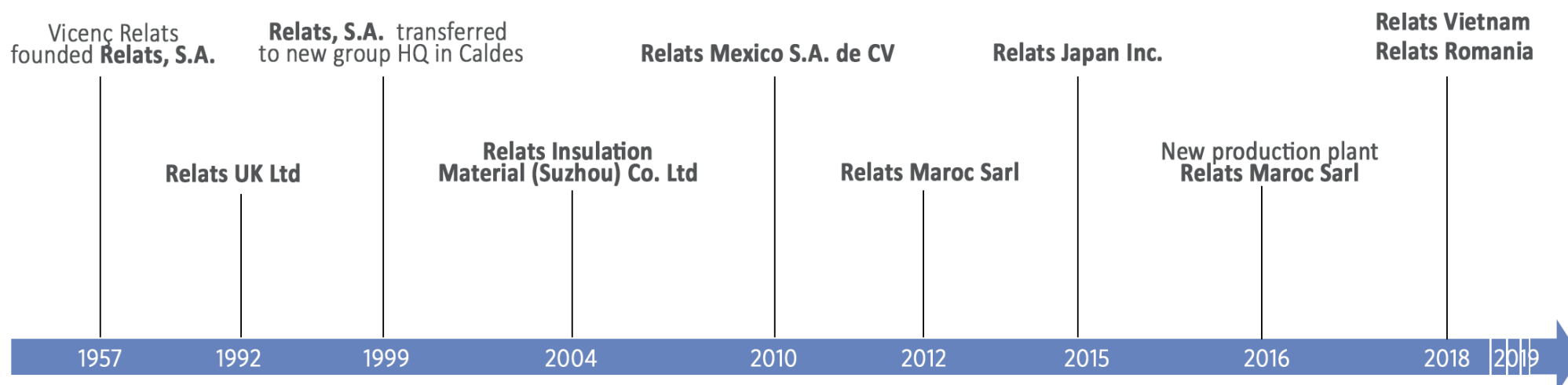
Leading manufacturer with global presence of:

- Electrical and thermal insulating sleeveings
- Mechanical protection and/or noise reduction covers (Self Closing TWS - PLAS family)
- EMI and heat reflective protective components
- Impact protection sleeves

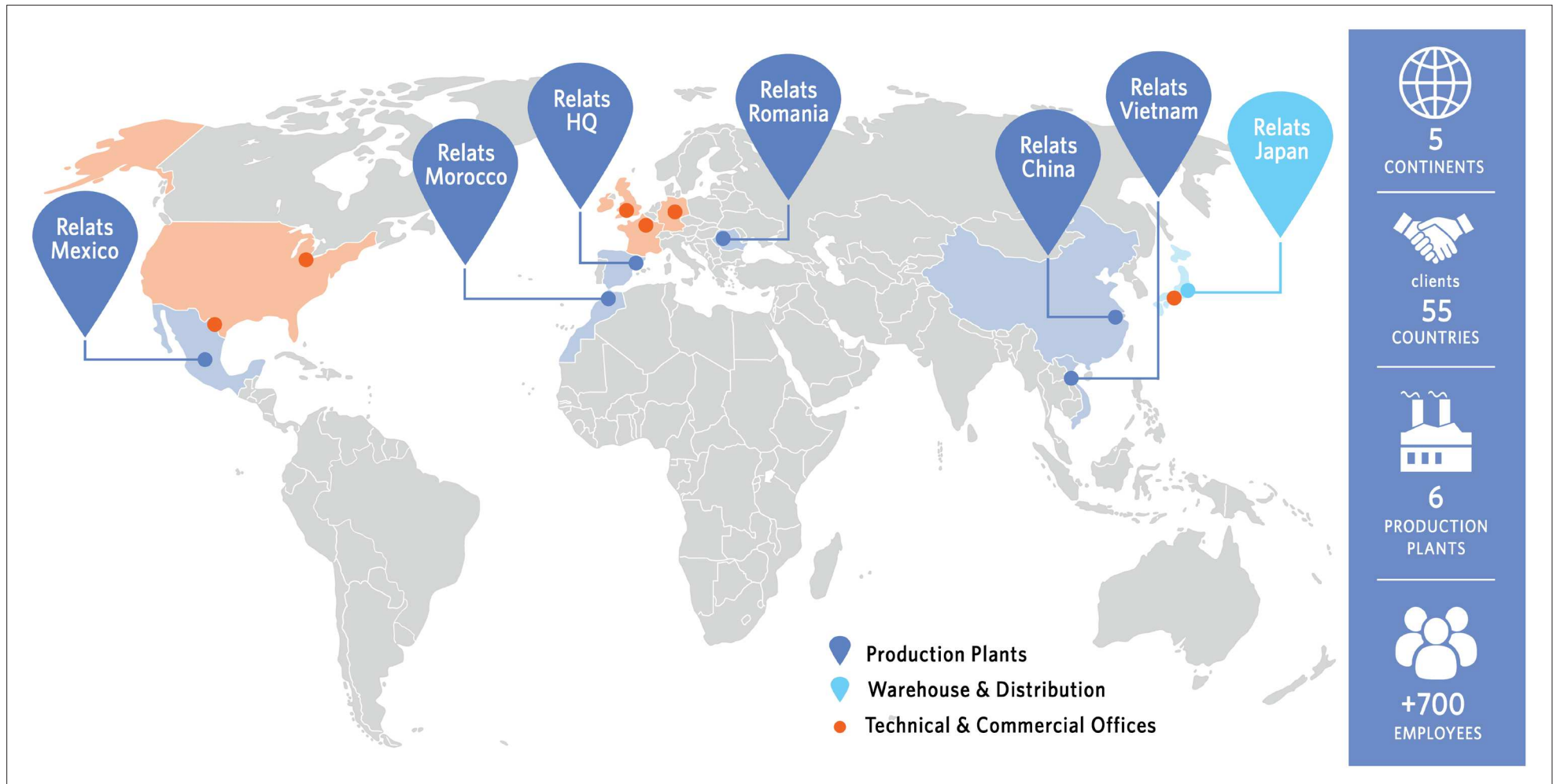




History & milestones



Worldwide presence:



Production Plants



Relats, S.A. - HQ

2016. Relats' headquarters is extended with a new smart warehouse

| | |
|----------------------------|----------------------------|
| Building before expansion: | 7,300 m ² |
| Expansion: | 2,400 m ² |
| Total: | 9,700 m² |



Relats China

June, 2017 - Expansion

| | |
|-------------------|----------------------------|
| Before expansion: | 6,000 m ² |
| Expansion: | 3,000 m ² |
| Total: | 9,000 m² |



Relats Mexico

October, 2017 - Expansion

| | |
|-------------------|----------------------------|
| Before expansion: | 3,500 m ² |
| Expansion: | 3,770 m ² |
| Total: | 7,270 m² |



Relats Morocco

May, 2017 - Transfer to New Production Plant

| | |
|-------------------|-----------------------------|
| Current Plant: | 4,500 m ² |
| New Plant: | 10,000 m² |



Relats Vietnam

June, 2018 - New Production Plant

Total: 7,250 m²

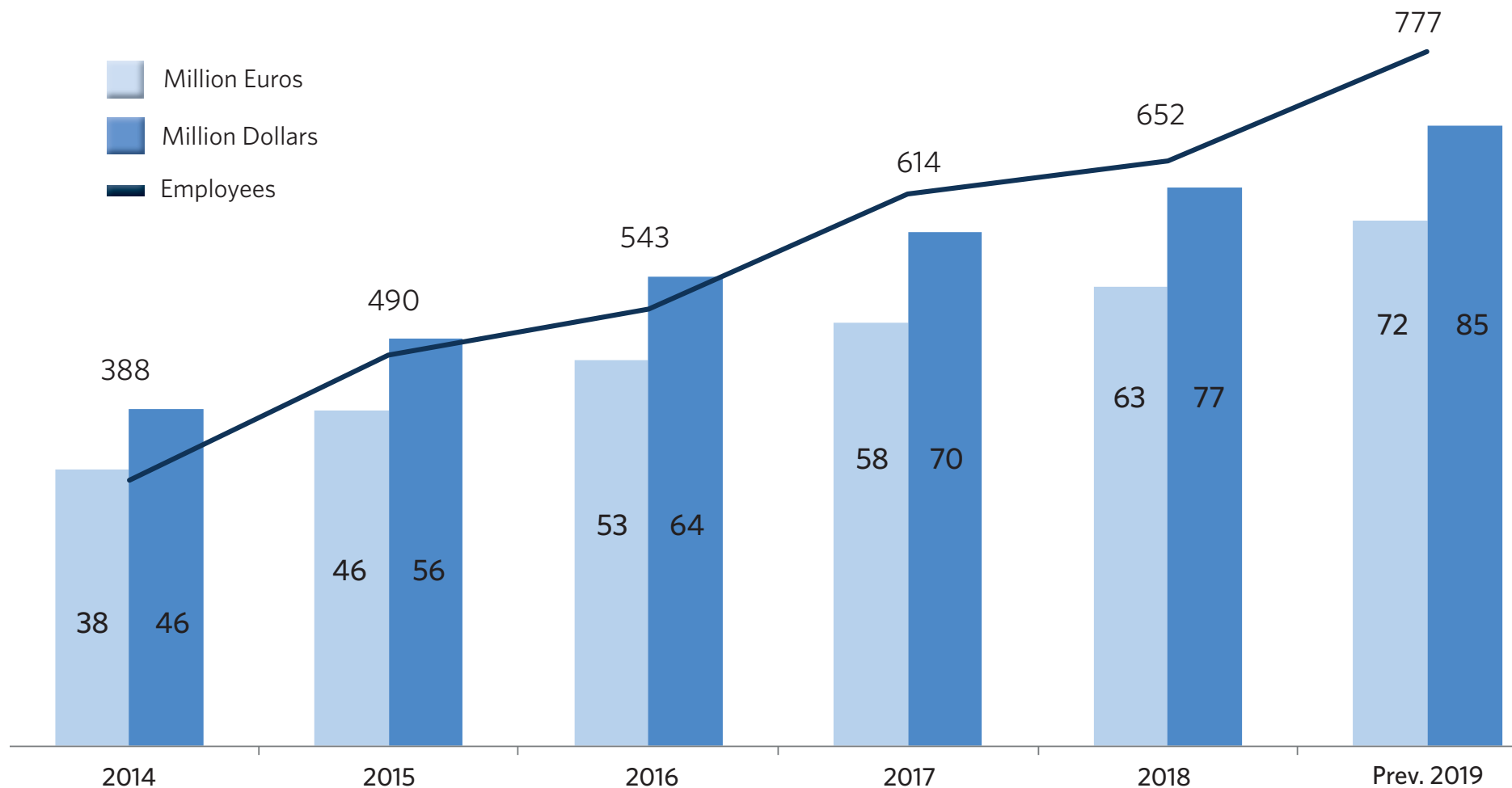


Relats Romania

October, 2018 - New Production Plant

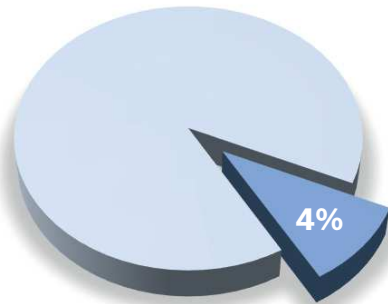
Total: 4,250 m²

Turnover & Employees – Relats Group

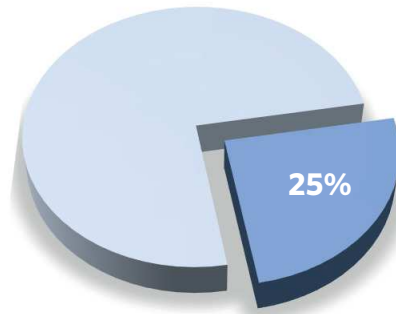


Constant innovation

R&D Investment vs Turnover
(annually)

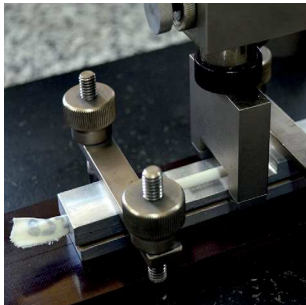


New Products vs Total Sales
(Products introduced in the market during last 4 years)



- 22 active patents, Avg. 2 new applications every year.
- Collaboration/agreements with technological centers, laboratories and universities.
- In regular consultation with European experts in our speciality.

Laboratory capabilities in house



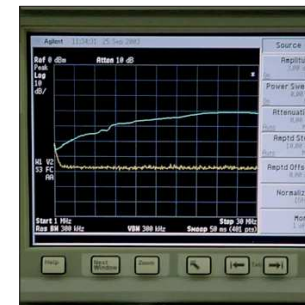
Mechanical tests



Thermal tests



Chemical tests



EMI testing



Physical testing



Crash tests

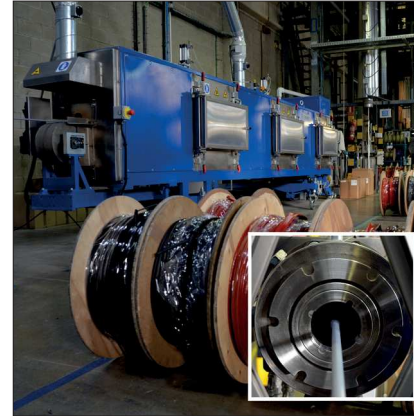
Production process



Braiding, knitting,
knitbraiding



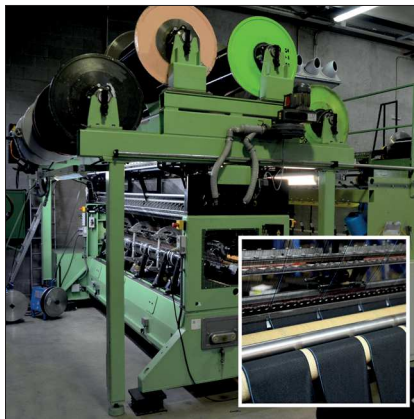
Coating towers



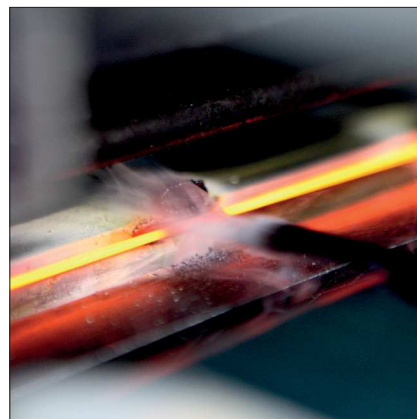
Silicone extrusion



Alu foil laminating



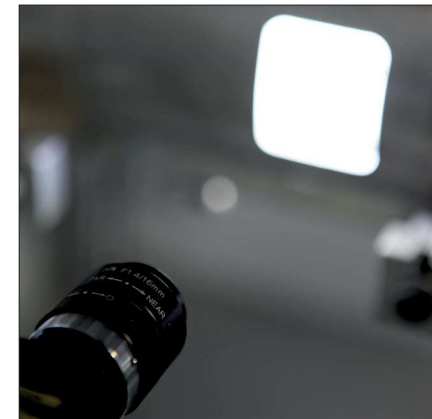
Flat knitting self closing
sleeves



Cutting: Thermal,
mechanical, ultrasonic cut



Heatshields laser cutting



Artificial vision quality
system

Windmill Industry



Glass Silicone Sleeves

For electrical insulation applications.

- Revitex VSC25/VSC75/VSX40/VSX75/VSC99

For electrical and mechanical insulation applications

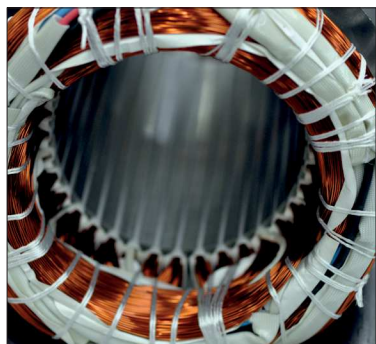
- Revitex V2A

Glass & Polyester Cords

For electrical machines armature banding.

- Revitex Therm Support Cord; Revitex V0000

EV, HEV & PHEV Motors



Silicone Sleeves & Tie Cords

Sleeves for electrical insulation of EV, HEV & PHEV motors and Tie Cord to tie the winding due to its mechanical resistance and high compatibility with the resins used in motors.

- Revitex V2V / Revitex Silcup; Tie Cord

Steel Industry

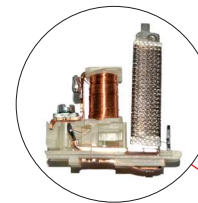


Glass Silicone Sleeves

Open and closed sleeves for fire protection of electrical cable and cable bundles to ensure the electrical characteristics will not be degraded.

- VSC7F Fire Pro; Fire Pro SC HP

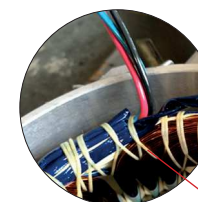
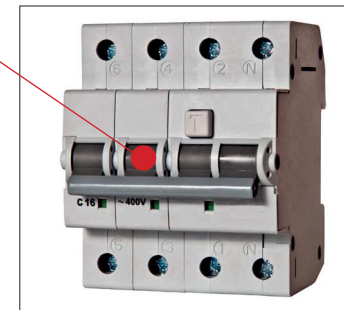
Circuit Breakers



Glass Acrylic Sleeves

For isolation of thermal bimetals, heat conductors. Mainly used on motor protection switches, automatic circuit breakers.

- Revitex Bimetal Cover

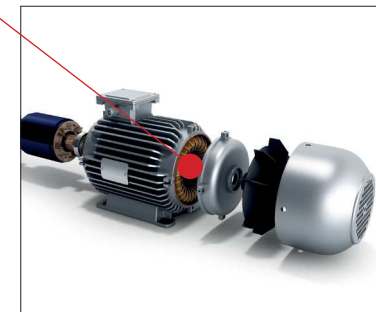


Glass Acrylic & Polyurethane Sleeves


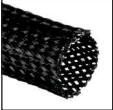

For protection of electrical connections and thermals because of its compatibility with impregnating varnishes.

- Revitex VPG40 / VPG80; Revitex VAC30 / VAC40 / VAC80


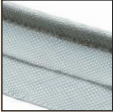


Electrical Power Units



Mechanical Protection Braids


| Product | Description | Material | Expansion ratio | Temperature | Flammability |
|--|--|-------------------------|-----------------|-----------------|--------------------|
|  Periflex PS V0 | Expandable braided sleeving mainly meant for applications of mechanical protection. | Monofilament Polyester | 1:2 | -70°C to +150°C | UL94 V0 |
|  Periflex PO V0 | Highly expandable braided sleeving mainly meant for applications of mechanical protection. | Monofilament Polyester | 1:3 | -70°C to +150°C | UL94 V0 |
|  Periflex Dura HA | Flexible sleeving intended for high mechanical protection. Due to its dense woven construction provides 100% coverage. | Multifilament Polyamide | -- | -70°C to +125°C | Self-Extinguishing |

Glass & Polyester Cords


| Product | Description | Material | Temperature | Flammability |
|--|--|--------------------------|-----------------|--------------------|
|  Revitex Therm Support Cord | Sleeving made of a bundle of E-glass yarn with a braided polyester yarn covering. | Fiberglass and Polyester | -70°C to +180°C | DNA |
|  Revitex Therm Tape Cord | Sleeving made of woven fiberglass tape and fully encapsulated knitbraided fiberglass yarn filled with textured fiberglass threads. | Fiberglass | -70°C to +600°C | Self-Extinguishing |
|  Polyester Sleeve Bopu | Expandable braided sleeving with coverage almost 100%. | Multifilament Polyester | -70°C to +150°C | Self-Extinguishing |
|  Revitex V0000 | Heat treated braided sleeving. Sleeving provides air space insulating only. | Fiberglass | -70°C to +550°C | Incombustible |

Gaskets

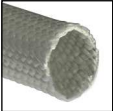


| Product | Description | Material | Temperature | Flammability |
|---|--|--|-----------------|--------------|
|  Revitex Therm | Braided or knitbraided fibreglass yarn, impregnated or not, unfilled or filled with textured fiberglass yarn or stainless steel metal mesh and optionally with paper backed adhesive tape. | Fiberglass, Stainless Steel, Paper Backed Adhesive | -70°C to +600°C | Fire Proof |

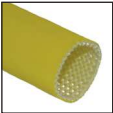


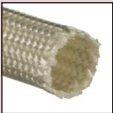
Polyester Impregnated Sleeves

| Product | Description | Material | Temperature | Flammability | Abrasion |
|---|--|----------------------------|-----------------|--------------|--|
|  Polycryl PAC | Braided polyester sleeving impregnated with acrylic varnish. This is a Class B electrical insulating sleeving available in two voltage grades. | Polyester yarn and Acrylic | -70°C to +180°C | DNA | <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> |

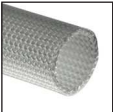

Glass Impregnated Sleeves

| Product | Description | Material | Temperature | Flammability | UL |
|---|---|-------------------------|-----------------|---------------|---------------|
|  Revitex VSR10 | Braided fiberglass sleeving impregnated with silicone varnish. Sleeving provides air space insulation only. | Fiberglass and silicone | -70°C to +300°C | Incombustible | UL recognized |





Glass Acrylic Sleeves

| Product | Description | Material | Temperature | Flammability | UL |
|---|--|---------------------------------------|-----------------|--------------------------------|---------------|
|  Revitex VAC30 | Braided fiberglass sleeving coated with acrylic resin. This is a Class F electrical insulating sleeving. | Fiberglass and Acrylic | -70°C to +155°C | Extinguishes within 60 sec. VW | -- |
|  Revitex VAC40 | Braided fiberglass impregnated sleeving coated with acrylic resin. This is a Class F electrical insulating sleeving. | Fiberglass and Acrylic | -70°C to +155°C | Extinguishes within 60 sec. VW | UL recognized |
|  Revitex VAC80 | Braided fiberglass impregnated sleeving coated with acrylic resin. This is a Class F electrical insulating sleeving. | Fiberglass and Acrylic | -70°C to +155°C | Extinguishes within 60 sec. VW | UL recognized |
|  Revitex Bimetal Cover | Flat or Round Fiberglass braid which is usually treated with an inorganic impregnation. | Fiberglass and Inorganic Impregnation | -70°C to +300°C | Self-Extinguishing | -- |

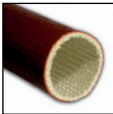




Silicone, Acrylic & Polyurethane Sleeves







| Product | Description | Material | Temperature | Flammability | UL |
|---|---|---|-----------------|--------------------|---------------|
|  Revitex GUF VPG 40/80 | Braided fiberglass sleeving coated with polyurethane varnish. | Fiberglass and Polyurethane | -70°C to +155°C | HS | UL recognized |
|  Revitex V2A 25 | Sleeving made of fiberglass braid coated with silicone rubber as a first internal layer. As second external layer made of a braided polyester sleeving with acrylic impregnation. | Fiberglass, Polyester, Silicone and Acrylic | -70°C to +155°C | Self-Extinguishing | -- |

Glass Silicone Sleeves

| Product | Description | Material | Expansion Ratio | Temperature | Flammability | UL |
|--|---|-------------------------|-----------------|-----------------|--------------------|---------------|
|  Revitex VSC25/75 | Sleeving made of a special silicone rubber coated fiberglass braid. | Fiberglass and silicone | -- | -70°C to +235°C | Self-Extinguishing | UL recognized |
|  Revitex VSX40 | Sleeving made of a special silicone rubber, its unique construction allows expanding 1.6 times its original size. | Fiberglass and silicone | 1: 1,6 | -70°C to +235°C | Self-Extinguishing | -- |
|  Revitex VSX75 | Sleeving made of a special silicone rubber coated fiberglass braid, with allows to expand it to the double of its original size | Fiberglass and silicone | 1:2 | -70°C to +235°C | Self-Extinguishing | UL recognized |
|  Revitex VSC99 | Sleeving made of a special silicone rubber thick coated fiberglass braid that guarantees a high dielectric strength | Fiberglass and silicone | -- | -70°C to +235°C | Self-Extinguishing | -- |

Glass Silicone Sleeves

| Product | Description | Material | Temperature | Flammability |
|--|--|---|-----------------|--------------------|
|  Revitex VSCTE | Fiberglass sleeving, thick wall, coated with self extinguishing silicone rubber, that guarantees a high degree of thermal insulation | Fiberglass and silicone | -70°C to +235°C | Self-Extinguishing |
|  Revitex VSCTF | Fiberglass knitbraided sleeving, thick wall, coated with self extinguishing and fire resistant silicone rubber, that guarantees a high degree of thermal insulation and fire protection. | Fiberglass and fire resistant silicone | -70°C to +235°C | Self-Extinguishing |
|  FIRE PRO SC | Self closing fiberglass and polyester sleeving coated with self-extinguishing and fire resistant special silicone rubber, that guarantees a high degree of thermal insulation and fire protection. | Fiberglass, polyester and fire resistant silicone | -70°C to +200°C | Self-Extinguishing |
|  Revitex Silcup | Sleeving made of a special silicone rubber coated fiberglass braid with one end bonded with silicone. | Fiberglass and silicone | -70°C to +235°C | Self-Extinguishing |
|  Revitex V2V | Sleeving made of fiberglass braid coated with silicone rubber as a first internal layer. As second external layer made of a braided fiberglass sleeving with silicone impregnation. | Fiberglass and silicone | -70°C to +200°C | Self-Extinguishing |

| Product | Description | Material | Temperature | Flammability | Tensile Strength | ATF Oil Compatibility |
|--|---|------------------|-----------------|--------------------|---|--------------------------------|
|  Tie Cord Nomex® | Braided sleeving made of Nomex® for tie motors, intended for mechanical resistance and high compatibility with resins. | Nomex® yarn | -70°C to +180°C | Self-Extinguishing |  | Tensile Strength Retention 70% |
|  Tie Cord PPS | Braided sleeving made of PPS for tie motors, intended for mechanical resistance and high compatibility with resins. | PPS yarn | -70°C to +180°C | Self-Extinguishing |  | Tensile Strength Retention 70% |
|  Tie Cord Para-aramid | Braided sleeving made of Para-aramid for tie motors, intended for mechanical resistance and high compatibility with resins. | Para-aramid yarn | -70°C to +180°C | Self-Extinguishing |  | Tensile Strength Retention 70% |

Industrial and Energy Customers

SIEMENS



**LEROY
SOMER**

Schneider
Electric

GRUNDFOS



LAFERT
ELECTRIC MOTORS

LINCOLN
ELECTRIC



B/S/H/

ENERCON
ENERGY FOR THE WORLD

ABB

 **Rolls-Royce**

SEW
USOCOME

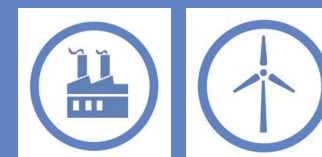
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Gamesa 

Quality and Environmental Management



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