YOU CAN RELY ON HIGH-PERFORMANCE LOGISTICS & SERVICES

With a main logistics platform in Lille (France), offices and storage facilities in Poland, U.S.A and Australia we can provide our clients with:

- A wide range of belt specifications in stock
- Cutting service to customer belts to width and length
- Hole punching service for elevator belts
- A one-stop shop for conveyor belt related products such as splice kits, glues, mechanical fasteners, idlers, loading stations, belt cleaners, vulcanizing presses...
- Buckets for elevator belts together with related fastening and installation equipment (e.g. bolts, clamps)...
- Short delivery times

DEPREUX is part of the COBRA GROUP.
For further information on DEPREUX or the COBRA GROUP ACTIVITIES please contact your closest COBRA subsidiary or your head office.

MSHA Approved UNDERGROUND CONVEYOR BELT

FABRIC CARCASE
- Firewall / Firewall II
  Multiply with rubber covers
- Firemaster - PVG
  Solid-woven with rubber covers
- Fireshield
  Straight-warp with rubber covers

STEEL CORD
- Firemaster - ST
  Steel cord with rubber covers

8 Boswell Drive - Bristol TN 37620
www.cobraamerica.com
Toll Free: (866) 760-9700
**Firewall™ - Firewall II™**

Plied Belts for Underground Use

**Application**
Both Firewall and Firewall II are belts used for the transportation of bulk or other material in various underground mining and quarrying applications, or any application in which MSHA Part 14 fire resistance is a requirement.

**Tensile strength**
150 PIW to 1400 PIW using 2 to 5 plies.

**Width and Length**
Standard 60” maximum. DEPREUX can supply wider belts if required. The width tolerance is +/- 1%. Belts are supplied in standard 656 ft. rolls, but can be offered in as much as 1300 ft. rolls if required.

**Belt structure**
The Fireshield™ and Firewall II™ belt carcase is made up of layered fabrics, from 2-5 plies. Each ply is separated by a rubber interlayer which enables the belt to absorb shocks.

**DEPREUX Belts can be joined by any of the following methods:**
- the "hot" vulcanized method, using DEPREUX or other jointing materials and a field press,
- the "cold" method: using special glues,
- with mechanical fasteners. In this case, DEPREUX can supply the required belt with fasteners ready for use at each end.

### Fireshield™

- The fabric of each ply is made using a standard 1/1 band or by using a Crows Foot Weave with bigger warp and weft yarns. This product provides greater impact resistance and a lesser risk of longitudinal tearing.
- At 10% of belt nominal tensile strength: 1.5% max. Permanent stretch: around 0.7% and elastic stretch: around 0.5% for standard carcase
- The fabrics are dipped with RFL solution. The RFL and rubber composition is designed to ensure maximum adhesion between the plies. This needs to be adhesive high enough to ensure a long life expectancy, but not so adhesive that it would hamper the operation of splicing the belt. Adhesion: > 4N/mm.

### Belt joining
- DEPREUX belts can be joined by any of the following methods:
- with mechanical fasteners. In this case, DEPREUX can supply the required belt with fasteners ready for use at each end.

### Belt structure
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### Firemaster - ST™

Steel cord carcass. This belt is composed of steel cords extending along the overall length of the belt. At a standard, the belt is propesiased with no steel. However, as indicated in this drawing, a steel breaker (or a textile breaker) can be added in the top cover to offer some resistance to tearing.

### Preamble
This brochure describes the heavy duty DEPREUX conveyor belts for underground applications. They are fire resistant and comply with MSHA Part 14 standards.

**Product Range:** 150 PIW to 3200 PIW with a maximum width of 72”

Standard conveyor belting is a highly flammable product, as it is composed of chemical products derived from petrochemicals. Special agents are added in the dipping solution of the fabrics, the impregnation paste, and in the different rubber components that make up a safety belt. This process increases the fire resistance and decreases the friction factor of the metal elements. These agents act in synergy at different high temperature levels. These added fire resistant agents will generally degrade the mechanical properties of the covers.

**Application**
The conveyor belts described in this brochure are to be used for conveying material underground mines or tunnelling applications. *A risk analysis should be done by the user in order to assess the extent of the following hazards:

1. **Limited means of escape**
2. **Potentially flammable environment**
3. **Presence of flammable dust or transport of flammable material**
4. **Presence of additional duel combustion elements such as wood, plastics, etc.**

**Range**
DEPREUX offers different types of constructions and different types of covers as indicated here below:

**Firewall™ - Firewall II™**
Traditional + multiply construction, composed by several fabric plies, rubber interplies and rubber top and bottom covers.

**Fireshield™**
- DX-FLEXAND: is a textile + straight-warp + belt; the warp is made of thick aramid twisted yarns, protected on both sides by a textile poliamide web. DX-FLEXAND will offer better impact resistance and tear resistance than steel-cord and could be used in case of emergency with mechanical fasteners.

**Firemaster - PVG**
These belts have a single ply textile carcase and rubber or PVC covers. This solid woven offers good impact resistance and a long life expectancy.

**Firemaster - ST™**
Steel cord carcase. This belt is composed of steel cords extending along the overall length of the belt. As a standard, this belt is supplied with no steel. However, as indicated in this drawing, a steel breaker (or a textile breaker) can be added in the top cover to offer some resistance to tearing.

**PRODUCT** | **OPERATING TEMPERATURE** | **TYPE OF COVER** | **ABRASIVE RESISTANCE (mm3)** | **TENSILE STRENGTH (Mpa)** | **Elongation AT BREAK (%)**
--- | --- | --- | --- | --- | ---
**Firewall™** | 0° to 50° | Chloroprene Rubber | <120 | >18 | >400
**Firewall™ II** | 0° to 50° | Nitrile Rubber / NBR | <180 | >14 | >380
Fireshield™

Underground straight-warp belt

Application
The Fireshield™ belt has excellent properties of resistance to tearing and resistance to heavy impacts. Because the carcass is thin, Fireshield™ can also be used with smaller pulley diameters than textile plied or steel cord belts. Ability of Fireshield™ to trough is much better than a pilled conveyor belt. Fireshield™ can also be joined with mechanical fasteners. Fireshield™ is therefore utilised on heavy duty conveyors where resistance to the effects of heavy impacts and resistance to tearing are important characteristics, typically seen in quarrying, open cast mining and steel industries... or in applications where heavy-duty and yet narrow belts are required, such as in tunneling.

Construction
Fireshield™ is a textile belt «straight- warp » which means with a carcass composed of one or two plies, each ply is with straight warp, protected on both top and bottom sides by weft lines in textile as shown in the drawing below cons. The straight warp is composed of thick twisted (textile cables) in polyester. This warp is inserted between two planes of weft textile made of thick twisted in polyamide . The warp and the weft are connected by a small fine wire which ensures the maintenance of textile.

Tensile strength
Fireshield ranges from standards of 150 PIW in 1 Ply to 1000 PIW in 2 Ply. If greater strength is required, please contact us for more information.

Belt joining
Fireshield™ conveyor belts are normally jointed by hot vulcanising (ref. to DEPREUX splicing procedure). It is also possible to mechanically fasten Fireshield™ belts but you should consult with our technical representative for the appropriate type of fastener.

Firemaster™ -PVG

Solid Woven Carcase, PVC/Rubber blended covers for underground use.

Application
DEPREUX Firemaster-PVG belts are used when a long service life is sought. It is for use in applications which are characterized by severe operating conditions such as high speed systems, presence of large material, risk of impact damage, longitudinal tearing, or edge wear.

Firemaster-PVG belts are also used for long distances and/or when the system faces a steep slope. This belt will be better for those applications than a standard pilled or steel cord belt because of its high mechanical and corrosion resistance, the lower power requirement, ease of installation and maintenance, and its superior mechanical fastener holding.

Tensile strength
This belt ranges from a standard of 150 PIW to 2200 PIW.

Belt structure
The Depreux belts are made of a textile «solid-woven» carcase, impregnated with a special PVC. The carcase is then protected with a proprietary DEPREUX cover providing the user with special characteristics ensuring long life and superior performance.

Main mechanical properties:

- Belt stretch
- Fasteners
- Mechanical resistance

Advantages for the overall system
A major advantage over ply belts is that Firemaster-PVG belts need smaller drum diameters. Firemaster-PVG belts usually need less power to function.

Belt joining
Depreux belts can be joined by any of the following methods:
- the «hot» vulcanized Finger splicing method, using DEPREUX or other jointing materials and a field press, - the «cold» Finger splicing method, using special glues, - with mechanical fasteners. In this case, DEPREUX can supply the required length with fasteners ready for use at each end. Please note that a small increase in belt length is required to make the splice. Also, in the case of «hot»-jointing, the splicing materials used have an effective shelf-life of less than 6 months and should not be stored at high temperatures.

Firemaster™-PVG can be spliced into both pilled and solid woven belting. Splicing procedures are available upon request.
**Firemaster™ –ST**

**MSHA Approved Steel Cord Belt**

**Application**

Steel cord belts are preferred to textile plied or solid-woven conveyor belts in the following situations:

- when the required tensile strength is high and the conveyor is narrow. The superior toughening capabilities of steel cord belt are suited to conveyors typically found in long overland conveyor systems, such as those between a mine and a power plant or steel works or tunnelling projects.
- when a very low elongation of the belt is required.
- when the life expectancy for the belt is the prime objective.
- when loading and transport conditions are compatible.

**Steel cable construction**

Firemaster ST utilizes the open type steel cord construction that allows the rubber to penetrate fully into the cable, which is a guarantee of the longevity for the belt. This technique optimizes the adhesion and minimizes corrosion to the steel cords in the case of damage to the belt.

Open steel cables also offer characteristics that enhance the impact absorption capability of the belt and makes for easy transition between the troughed position of the belt to flat and vice versa.

The steel cables are also protected against corrosion with special zinc plating.

**Steel Cables placed at a constant pitch across the width of the belt.**

- when loading and transport conditions are compatible.
- when the life expectancy for the belt is the prime objective.
- when a very low elongation of the belt is required.
- when the required tensile strength is high and the conveyor is narrow. The superior toughening capabilities of steel cord belt are suited to conveyors typically found in long overland conveyor systems, such as those between a mine and a power plant or steel works or tunnelling projects.

**Different bonding layer and cover combinations**

The bonding layer is a key part of steel-cord belt. It has to be formulated to have:

- Good penetration in the cable
- Good adhesion with the cable
- Good adhesion with the cables, even after ageing
- Good adhesion with the cables even after the dynamic stresses of the conveyor operation
- when the required tensile strength is high and the conveyor is narrow. The superior toughening capabilities of steel cord belt are suited to conveyors typically found in long overland conveyor systems, such as those between a mine and a power plant or steel works or tunnelling projects.

The manufacture of a steel-cord belt requires a heavy-duty steel cord production line together with an experienced, knowledgeable production team. DEPREUX Firemaster-ST belts are the result of 80 years experience.

**Firemaster-ST conveyor belt is composed of:**

- Steel Cables placed at a constant pitch across the width of the belt.
- A special rubber bonding layer to the cables and to the rubber covers.
- Top and bottom rubber covers.

The belt ranges from a standard ST630 N/mm to a ST5400 N/mm

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<th>Type</th>
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<th>Max. steel cord diameter</th>
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**Tensile strength**

The belt ranges from a standard ST630 N/mm to a ST5400 N/mm

**Product description**

A Firemaster-ST conveyor belt is composed of:

- Steel Cables placed at a constant pitch across the width of the belt.
- A special rubber bonding layer to the cables and to the rubber covers.
- Top and bottom rubber covers.

- when loading and transport conditions are compatible.
- when the life expectancy for the belt is the prime objective.
- when a very low elongation of the belt is required.
- when the required tensile strength is high and the conveyor is narrow. The superior toughening capabilities of steel cord belt are suited to conveyors typically found in long overland conveyor systems, such as those between a mine and a power plant or steel works or tunnelling projects.

**Application**

Steel cord belts are preferred to textile plied or solid-woven conveyor belts in the following situations:

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- when a very low elongation of the belt is required.
- when the life expectancy for the belt is the prime objective.
- when loading and transport conditions are compatible.