



CONVEYOR OR ELEVATOR BELTS FOR THE TRANSPORT OF ABRASIVE MATERIALS OR WITH IMPACT LOADING IN AMBIENT ENVIRONMENT

FABRIC CARCASE

● **DELTA or DELTA CFW**
Plied belts with rubber covers

● **DELTA selftrack**
Plied belts with 1 ply stiffened and rubber covers

● **DX-FLEX or DX-FLEX RT**
Polyester straight-warp conveyor belt with rubber covers

● **DX-FLEXAMID**
Aramid straight-warp conveyor belt with rubber covers

● **DYNA**
Solid-woven belts with rubber covers

● **DYNA-P**
Solid-woven belts with PVC covers

STEEL CARCASE

● **DX/ST**
Steel cord belts with rubber cover

● **DX MAT**
Steel straight-warp belts with rubber cover



Conveyor or elevator belts for the transport of abrasive materials or with impact loading in ambient environment



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The main feature of DEPREUX is to be able to offer for different applications the best technical and economical solution, taking into account the targeted life expectancy, the risks of hazards, the maintenance practices, and the initial investment cost.

For the short center conveyor systems, DEPREUX offers alternative options to the standard DELTA plied belts to accommodate with the possible heavy impacts or risks of tearing of not carcass:

- add textile or steel breakers to the plied belt
- a straight-warp DX-FLEX construction
- a solid-woven DYNA construction with rubber covers or with PVC covers for very special applications
- a steel carcass construction: steel-cord DX/ST or a steel matrix DX-MAT

For the long distance conveyor systems, DEPREUX has a wide variety of solutions, depending on the system configuration:

- the standard DELTA plied belt or DELTA CFW
- the polyester straight-warp DX-FLEX belt or DX-FLEX RT
- the thin and light aramid straight-warp belt
- the solid-woven DYNA belt
- the steel-cord DX/ST belt

PRODUCT RANGE

Textile carcass belts

DEPREUX offers 8 types of textile or steel conveyor belts for the transport of bulk or other materials.

Each belt is made to fit as closely as possible with the conveyor system parameters, the nature of the material to be transported and the targeted belt life expectancy.

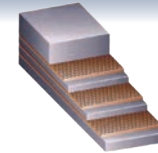
The choice of the type of belt cover is largely influenced by the physical and properties of the material to be transported: its granularity, its level of humidity, its abrasion capabilities. Here are some examples of different types of material:

Highly abrasive material: clinker, iron ore, pyrite, metallurgic coke, metallurgic lignite, magnetite, quartz, lignite, superphosphate, glass powder.

Moderately abrasive material: anthracite, coal, ash, bauxite, potash, gravel, aluminium, concrete, sand.

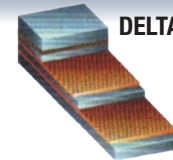
Heavy or sharp material: To transport this type of material, you need a belt with a very sturdy structure. This is the case in, for example: iron, andesite, schist, ryolythe, comblanchien, and all types of rock with a granularity of higher than 100 mm after being broken down.

DELTA is a conventional ply belt, made up of textile layers bound together by a thin layer of rubber and two covers.



**DELTA OR
DELTA CFW**
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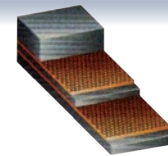
DELTA SELFTRACK is a DELTA with 1 additional stiffened ply this belt is used to ensure proper centering of the troughed belt to avoid possible tracking issues.



DELTA SELFTRACK
page 5

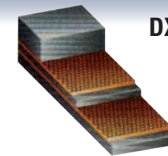
DX-FLEX is a textile belt with a carcass composed of polyester warp protected on both sides by a polyamide weft.

DX-FLEX has excellent properties of resistance to tearing and resistance to heavy impacts.



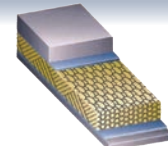
**DX-FLEX OR
DX-FLEX RT**
page 6

DX-FLEXAMID is a DX-FLEX where the polyester warp is replaced by aramid.



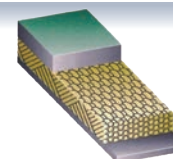
DX-FLEXAMID
page 7

DYNA is a solid-woven belt with rubber covers. Its main characteristics are high life expectancy and high resistance to impacts and potential incidents.



DYNA
page 8

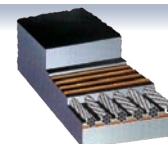
DYNA-P is a variation of a DYNA, using PVC covers instead of rubber. It is used in very special cases such as the transport of metallic parts.



DYNA-P
page 9

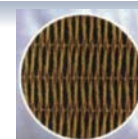
Steel carcass belts

DX-ST is a belt composed of steel cables placed at a constant pitch across the width of the belt (on the drawing, DX-ST with steel breaker in the top cover)

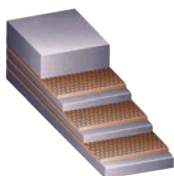


DX-ST
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DX-MAT is a DX FLEX where the polyester warp and the polyamide weft are replaced by steel cord.



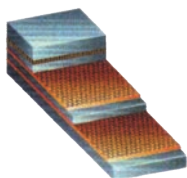
DX-MAT
page 12



DELTA or DELTA CFW - Plied belts with rubber covers



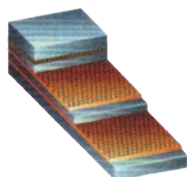
Application	<p>Transportation of bulk or other material in various mining and industrial sectors, such as:</p> <ul style="list-style-type: none"> - quarries, - mines, - power plants, - steel, - cement industry, - ports, - paper and wood, - glass, - any standard use.
Tensile strength	250 N/mm to 2000 N/mm - using 2 to 5 plies.
Width and Length	<p>Standard 1600 mm maximum. We can supply wider belts if required. Tolerance +/- 1%. Standard 200 m rolls. 400 m rolls are also possible, please contact us.</p>
Belt structure	<p>The DELTA or DELTA CFW belt textile carcass is made up of layers of fabrics, from 2 to 4 (or more) plies. Each of these is separated by a rubber layer. This «sandwich» structure enables the belt to absorb shocks. The upper and lower fabrics of the belt are then covered with a final rubber cover</p> <p>Cover characteristics: see table on page 14.</p> <p>Thicknesses and weights for different specifications, please contact us.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>DELTA</p>  </div> <div style="text-align: center;"> <p>DELTA CFW</p>  </div> <div style="text-align: center;">  </div> </div>
Main mechanical properties: - Belt stretch - Adhesion	<p>The fabric of each ply is made either by a weaving fabric called «1/1» band - DELTA (crossing a warp yard and a weft yarn) or a weaving fabric called «Jacquard» - DELTA CFW belt - (CFW or Crows Foot Weave) with warp and weft yarns bigger, which provides greater resistance to impact and to longitudinal tearing.</p> <p>- At 10% of belt nominal tensile strength: 1.5% max. Permanent stretch: around 0.7% and elastic stretch: around 0.5% for standard carcass</p> <p>- 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.</p>
Belt joining	<p>DELTA belts can be joined by any of the following methods:</p> <ul style="list-style-type: none"> - 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. <p>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.</p> <p>The splicing procedure is described in detail in a separate document available on request.</p> <div style="display: flex; justify-content: space-between; align-items: center;">  </div>
Description of product	<p>DELTA EP 400/3 - 1000 - 4 + 2 Y</p> <p>DELTA : Plied rubber conveyor belt</p> <p>EP : Warp polyester E - Weft polyamide P</p> <p>400 : Tensile strength in N/mm</p> <p>3 : Number of plies</p> <p>1000 : Width in mm</p> <p>4 + 2 : Upper and lower covers thickness in mm</p> <p>Y : Cover type</p>
Pulley diameter	Recommendation for pulley diameters see table on page 15.
DELTA+	<p>The standard DELTA belts have an interlayer thickness of 0,8mm.</p> <p>It is possible to increase the interlayer thickness to 1,5mm. The belt is then called DELTA +</p>



DELTA selftrack - DELTA belt to avoid Tracking Misalignment

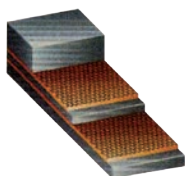


Application	<p>DELTA selftrack belts are used to ensure proper centering of the troughed belt to avoid any tracking misalignment.</p> <p>This special belt is designed on the basis of a plied classic DELTA plus 1 fold above the classics EP fabrics. This gives for example 3+1: 3 conventional EP plies + 1 stiffened ply; the stiffened ply is about 1/3 of the belt width and is located only in the middle of the belt.</p> <p>DELTA selftrack belt can also be manufactured with great interplies DELTA + selftrack.</p>
Belt structure	<p>Cover characteristics: see table on page 14.</p> <p>Thicknesses and weights for different specifications, please contact us.</p>
Description of product	<p>DELTA selftrack - 400/3+1 - 1200 - 6+2 - Y</p> <p>DELTA : Plied rubber conveyor belt SELFTRACK : 1 additional stiffened ply 400 : Tensile strength in N/mm 3+1 : 3 EP plies + 1 stiffened ply 1400 : Belt width in mm 6+2 : Upper and lower covers thickness in mm Y : Cover type</p> <div style="text-align: right;"> <p>Delta Selftrack in application on 3 rolls trough</p> <p>— EP plies — Stiffened ply</p> </div>
Pulley diameter	<p>Recommendation for pulley diameters see table on page 15.</p>



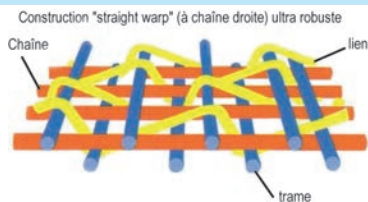
BREAKER OPTION (textile breaker, steel breaker or aramid breaker)

Application	<p>All conveyor belts Delta and DX-ST can be equipped with the option (if the thickness of the cover is sufficient) of a fabric, steel or aramid breaker ply whose function is to protect the textile fabric of the carcass from ripping or impact. It can also add a breaker (less common) for DX-FLEX belts, or DX FLEXAMID DX or DYNA. The breaker ply may be inserted in the top cover (1 or 2 breakers) or in both covers if double protection is required. In addition it may be either included in the cover thickness or more of the cover.</p> <p>Corresponding configurations are called respectively:</p> <ul style="list-style-type: none"> • BRK1+0: 1 steel, fabric or aramid breaker, which is always on the top cover. • BRK1+1: 1 steel, fabric or aramid breaker in the top cover and 1 steel, fabric or aramid breaker in the bottom cover. • BRK2+0: 2 steel, fabric or aramid breakers in the top cover. <p>These belts are utilised in applications where resistance to impact is required and there is a risk of «ripping» due to the character of the material being carried or the possible presence of undesirable sharp objects</p>
Steel Breaker	<p>The steel breaker ply has ample capacity to resist tearing. The ply is constructed of steel cables resistant to cutting and tied together by polyamide wires. The resistance of the cable and the spacing of the cables vary according to the resistance required. The steel cables are orientated in the weft direction of the belt.</p> <p>The steel breaker is denominated for its ultimate tensile strength at the break, in N/mm; in the direction of the steel cables, which relates to the transverse direction of the belt. We offer the breaker plies in grades 125, 160, 200, 250, 315, 400. BS - 125 is stated to be that the resistance to break in cable direction (it relates to the direction of the weft of the belt) as better than 125 N/mm.</p> <p>Technical parameters in table on page 11.</p> <div style="text-align: right;"> </div>
Fabric Breaker	<p>In standard we use</p> <ul style="list-style-type: none"> - Protect from ripping: EP-RT160 and EP-RT200 - Protect from impact: EP125 and EP160
Aramid Breaker	<p>The aramid breaker is composed of polyester in the warp, and aramid in the weft; with the aramid having by construction an elongation at break over 6% to cater with the required transverse flexibility.</p> <p>An other interesting feature of this breaker is its flame-resistance and its resistance to very high temperatures.</p> <p>So it could be interesting for some special conveyors in founderies and steel industries.</p> <p>In standard, we use aramid breaker FS220.</p>
Description of product	<p>DELTA EP 400/3 - 1400 - 6+4 - BRK2+0 S125 - B</p> <p>DELTA : Plied rubber conveyor belt EP : Warp polyester E - Weft polyamide P 400 : Tensile strength in N/mm 3 : Number of plies 1400 : Width in mm 6+4 : Upper and lower covers thickness in mm BRK2+0 : 2 breakers in the top cover S : Steel breaker (T for fabric breaker D for aramid breaker) 125 : Breaker Tensile strength in N/mm - : Breaker included in cover thickness (+ for breaker thickness in addition to the cover thickness) B : Cover type</p>

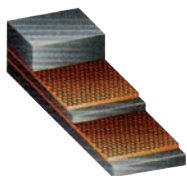


DX-FLEX - Textile straight-warp conveyor belt



Application	<p>The DX-FLEX belt has excellent properties of resistance to tearing and resistance to heavy impacts. Because the carcass is thin, DX FLEX can also be used with smaller pulley diameters than textile plied or steel-cord belts. Ability of DX-FLEX to trough is much better than a plied conveyor belt. DX-FLEX can also be joined with mechanical fasteners. DX-FLEX 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 tunnelling.</p>
Construction	<p>DX -FLEX 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 . The carcass frame thus constructed is adhered RFL and may be coated of different types of rubber cover, anti- abrasive (X , Y , SH , etc ...) and other.</p> <ul style="list-style-type: none"> • for a given ply , for average tensile strength greater than 800 N/mm, it is necessary to have two levels of warp , and therefore three levels of weft protecting the warp and the binding of the assembly. • For high resistance, it is preferable to use 2 plies straight- warp , separated by an interply in rubber to facilitate splicing . • To increase fastening resistance, tear and impact, the DX -FLEX belt can be offered in a version with carcass reinforced in weft: DX -FLEX RT 
Tensile strength	250 N/mm in 1 ply to 1800 N/mm in 2 plies
Belt joining	DX-FLEX or DX-FLEX RT conveyor belts are normally jointed by hot vulcanising (ref. to DEPREUX splicing procedure). It is also possible to mechanically fasten DX-FLEX belts but you should consult with our technical representative for the appropriate type of fastener.
Belt structure	<p>Cover characteristics: see table on page 14.</p> <p>Thicknesses and weights for different specifications, please contact us.</p>
Description of product	<p>DX - FLEX - 1600 / 2 - 1200 6 + 3 - X</p> <p>DX-FLEX : Conveyor Belt with straight-warp</p> <p>1600 : Tensile strength at break of the belt in N/mm; 1600 N/mm</p> <p>2 : 2 plies of straight-warp fabric, each made of an 800 N/mm tensile strength fabric</p> <p>1200 : Conveyor belt width in mm</p> <p>6+3 : Top and bottom cover thickness in mm</p> <p>X : Cover type</p>
Pulley diameter	<p>Recommendation for pulley diameters see table on page 15.</p> <p>DX-FLEX belt can operate with pulley diameters smaller than DELTA belt.</p>





DX-FLEXAMID - Aramid straight-warp conveyor belt



Application

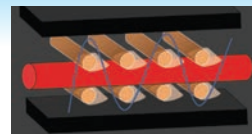
The main feature of this belt is that it is the lightest and the thinnest between all textile and steel options ; thanks to the properties of the aramid yarn which has 3 times more strength (or tenacity) than a polyester yarn for the same weight , and roughly three time less elongation. Compared to steel construction, it is naturally much lighter, and its elongation is in the same order of magnitude as steel.

The aramid yarn is used in the warp and generally polyamide yarn are used in the weft.

If a great concentration of nylon yarns are used, compared to a steel-cord belt, the belt will have a much greater resistance to tearing; and a temporary jointing with mechanical fasteners could be used.

Construction

DX-FLEXAMID belt is composed of a «straight-warp» carcass, formed with a layer of aramid straight chain fibre yarn, with two layers in the weft direction, upper and lower polyamide textile fibre yarn. The yarn of the warp and weft are connected with a bonding polyamide yarn to ensure a strong construction.



Tensile strength

Up to 4000 N/mm in 1 single ply

Belt structure

Cover characteristics: see table on page 14.

Thicknesses and weights for different specifications, please contact us.

Description of product

DX-FLEXAMID - 1600/1 - 1400 – 6+3 – X

DX-FLEXAMID : Conveyor Belt with aramid straight-warp

1600 : Tensile strength at break of the belt in N/mm; 1600 N/mm

1 : 1 ply of straight-warp aramid

1600 : Conveyor belt width in mm

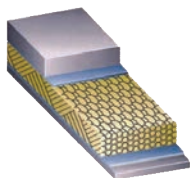
6+3 : Top and bottom cover thickness in mm

X : Cover type

Pulley diameter

Recommendation for pulley diameters see table on page 15.

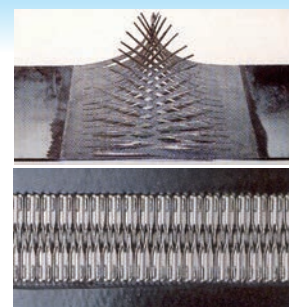
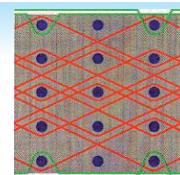


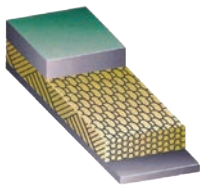


DYNA - Solid-woven belts with rubber covers



Application	<p>1) DYNA belts are used when a long service life is sought and/or which are characterised by severe operating conditions such as in short centre or high speed systems, the presence of large rocks, a risk of impact damage, or longitudinal tearing or edge wear.</p> <p>2) DYNA belts are also used for long center distances or when the system is on a steep slope. In these circumstances a DYNA belt works better than conventional ply or steel cord belts, because of its high mechanical and corrosion resistance, its generally lower power requirement, plus the fact that it is easy to install and maintain, mainly because of its high fastener holding.</p> <p>3) And finally, DYNA belts are used for bucket elevators, because of the high bolt holding strength of their structure.</p>
Tensile strength	315 N/mm to 3150 N/mm.
Width, Length	<p>Standard: up to 1600 mm maximum. Larger widths can be supplied. Tolerance +/- 1 %.</p> <p>Standard length: 200 m. Can supply belts of up to 400 m long. Tolerance -0, +2 %.</p>
Belt structure	<p>The DYNA belts are made of a textile «solid-woven» carcass, impregnated with a special PVC</p> <p>The carcass is then protected with special anti-abrasion rubber covers.</p> <p>Cover characteristics: see table on page 14.</p> <p>Thicknesses and weights for different specifications, please contact us.</p>
Main mechanical properties:	<p>Main mechanical properties : The «solid-woven» textile is made of polyester (E) yarns in the warp direction to minimize the stretching of the belt, and of polyamide (P) yarn in the weft direction for good belt flexibility.</p>
- Belt stretch	- At 10% of nominal belt tensile strength: 1 % maximum Elastic stretch: 0.5% to 0.7% for standard carcass Permanent stretch : 0.4% to 0.7%.
- Fasteners	- Excellent fastener holding capacity - from 50% to 90% - which makes this joining technique increasingly popular.
- Mechanical resistance	<p>- The «solid-woven» carcass is covered with cotton pile yarns laid in the warp direction, and special edge reinforcements which make the belt exceptionally resistant:</p> <ul style="list-style-type: none"> - to impacts by sharp or large materials, - to longitudinal tearing, - to carcass wear in case of substantial damage in the rubber cover. <p>As the carcass is highly compact, the thickness of the outer rubber covers can be reduced.</p>
Advantages for the overall system	A major advantage over ply belts is that DYNA belts need smaller drum diameters. The advantage over steel-cord belts is that DYNA belts usually need less power to function.
Operating temperature range	Temperature from: -25°C to 70°C
- Humidity	The belt is impervious to humidity and moisture.
Belt joining	<p>DYNA belts can be joined by any of the following methods:</p> <p>the «hot» vulcanized Finger splicing method, using DEPREUX or other jointing materials and a field press, - the «cold» Finger splicing method: using special glues,</p> <ul style="list-style-type: none"> - 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. <p>The splicing procedure is described in detail in a separate document available on request.</p>
Description of product	<p>DYNA EP 630/1 - 1000 - 4 + 2 SH</p> <p>DYNA : Solid woven rubber belt</p> <p>EP : Warp polyester E - Weft polyamide P</p> <p>630 : Nominal tensile strength in N/mm</p> <p>1 : Single ply</p> <p>1000 : Width in mm</p> <p>4 + 2 : Upper and lower covers thickness in mm</p> <p>SH : Cover compound</p>
Pulley diameter	Recommendation for pulley diameters see table on page 15.





DYNA-P - Solid-woven belts with PVC covers



Application	DYNA-P belts are used for the transport of sharp and greasy materials because the PVC cover has a high resistance to cutting and to oil and grease. For example, the transport of metallic by-products.
Tensile strength	Usually 400 - 500 - 630 N/mm.
Width	Up to 1600 mm maximum.
Belt construction	The DYNA-P belt is made of a «solid-woven» textile carcass impregnated with PVC and protected by PVC covers. Cover characteristics: see table on page 14. Thicknesses and weights for different specifications, please contact us.
Main mechanical properties	The structure of the DYNA-P is very similar to that of the DYNA belt, especially with regards to the carcass. As a result, the mechanical properties are identical
Belt joining	The DYNA-P structure is very similar to that of the DYNA belt, therefore in principle the joining method and fastening methods are much the same. The splicing procedure is described in detail in a separate document available on request.
Description of product	DYNA-P EP 630/1 - 1000 - 4 + 2 DYNA - P : Solid-woven belt with PVC covers EP : Warp polyester E - Weft polyamide P 630 : Nominal tensile strength in N/mm 1 : Single ply 1000 : Width in mm 4 + 2 : Upper and lower covers thickness in mm.
Pulley diameter	Recommendation for pulley diameters see table on page 15.





DX-ST - Steel cord belt with rubber cover



Application

Steel cord belts are used in a wide variety of applications such as mining, harbour terminals, tunnelling projects, steel works, cement plants and power generation plants.

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 troughing capabilities of steel cord belt are suited to conveyors typically found in long overland conveyor systems, such as those between a quarry and a cement 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.

Tensile strength

From 500N/mm to 6400N/mm

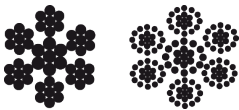
Product description

A DX/steel-cord 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 manufacture of a steel cord belt requires a heavy-duty steel cord production line together with an experienced, knowledgeable production team. DEPREUX Steel Cord belts (DX/ST) are the result of 80 years experience.

Steel cable construction



DEPREUX utilises 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 optimises the adhesion and minimises 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.

Different bonding layer and cover combinations



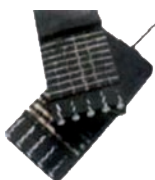
The bonding layer is a key part of steel-cord belt. It has to be formulated to have:

- 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

Cover characteristics: see table on page 14.

Thicknesses and weights for different specifications, please contact us.

Rip protection and the use of breaker plies



A risk for steel-cord belts is the possibility of penetration between the cords by a sharp foreign object and "ripping" along the length of the belt.

Two possibilities are available to protect the steel cord belt against such an occurrence.

- 1) Add a textile breaker ply in the cover of the belt. The P Type textile breaker is composed of high elongation strong yarns that are positioned in the direction of the weft as indicated in the picture.
- 2) Add a steel breaker ply in the cover of the belt. The HE steel breaker ply is composed of a high tensile strength steel wire (7 times normal elongation) positioned in the direction of the weft.

Consideration of the breaker ply design in relation to the overall performance of the conveyor belt should be made because the higher the tensile strength of the breaker ply the greater the adverse effect on the troughing characteristics of the conveyor belt.

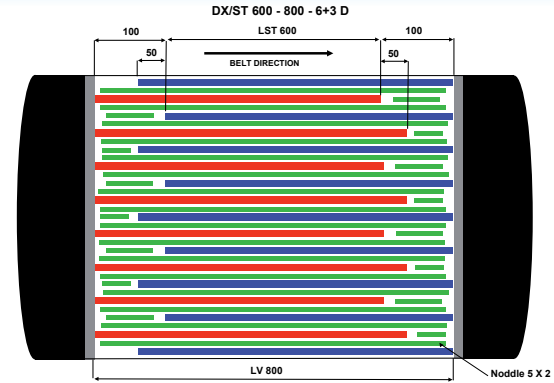
Steel breaker ply technical parameters

The following table shows the main technical parameters of High Elongation HE steel wire breaker plies:

TENSILE STRENGTH (N/mm)	HE 125	HE 250	HE 315	HE 400
WEIGHT (Kg/mm)	0.7	1.20	1.45	2.50
DIAMETER OF CABLE (mm)	1.35	1.52	1.52	2.40
PITCH (mm)	8.9	6.4	5.1	7.1
DENSITY (cords/m)	112	156	196	141

Belt joining

The DX/Steel Cord belt has to be spliced in compliance with the DEPREUX Splicing procedure (available on request).



Pulley diameter

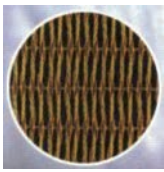
Recommendation for pulley diameters see table on page 15.

Technical parameters

construction according to ISO 1536-2

Type	Unité	ST 500	ST 630	ST 800	ST 1000	ST 1250	ST 1400	ST 1600	ST 1800	ST 2000	ST 2250	ST 2500	ST 2800	ST 3150	ST 3500	ST 4000	ST 4500	ST 5000	ST 5400
Tensile	N/mm	500	630	800	1000	1250	1400	1600	1800	2000	2250	2500	2800	3150	3500	4000	4500	5000	5400
Max. steel cord diameter	mm	3,0	3,0	3,7	4,2	4,9	5,0	5,6	5,6	5,6	5,6	7,2	7,2	8,1	8,6	8,9	9,7	10,9	11,3
Min cord tensile strength	KN	7,6	7,6	10,3	12,9	18,4	20,6	26,2	25,5	25,5	26,2	39,7	39,7	50,0	55,5	63,5	75,0	90,3	96,0
Space between cords (±1,5mm)	mm	14,0	11,0	12,0	12,0	14,0	14,0	15,0	13,5	12,0	11,0	15,0	13,5	15,0	15,0	15,0	16,0	17,0	17,0
Min Thickness cover	mm	4,0	4,0	4,0	4,0	4,0	4,0	4,0	4,0	4,0	4,0	5,0	5,0	5,5	6,0	6,5	7,0	7,5	8,0
Belt Width	tolerance (mm)	Cord numbers																	
600	+10/-5	33	42	39	39	34	34	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
650	+10/-7	44	54	51	51	45	45	41	46	52	56	41	46	41	41	41	39	36	N/A
800	+10/-8	54	68	64	63	55	55	60	57	64	69	51	57	51	51	51	48	45	45
1000	±10	68	84	80	80	68	68	63	71	80	86	63	71	63	64	63	60	56	57
1200	±10	86	110	97	97	82	82	76	85	96	104	76	85	76	76	76	72	67	68
1400	±12	96	124	114	113	97	97	90	100	112	122	89	99	89	89	89	84	79	79
1600	±12	111	142	130	130	111	111	103	114	129	140	102	114	102	102	102	96	90	90
1800	±14	125	160	147	147	125	125	116	129	145	159	116	128	116	116	116	108	102	102
2000	±14	139	177	164	163	140	139	130	144	162	177	129	143	129	129	129	121	114	114
2200	±15	153	195	180	180	154	154	143	159	179	195	142	158	142	142	142	133	126	126
2400	±15	167	213	197	197	168	168	156	174	195	213	156	173	156	156	156	146	137	137
2600	±15	181	231	214	213	182	182	170	189	212	231	169	188	169	169	169	158	149	149
2800	±15	196	249	230	230	197	197	183	203	229	249	182	202	182	182	182	171	161	161
3000	±15	210	267	247	247	211	211	196	218	245	268	196	217	196	196	196	183	173	173
3200	±15	224	286	264	263	225	225	210	233	262	286	209	232	209	209	209	196	184	184

N/A: Not applicable because of troughability



DX-MAT (IW) - Steel straight-warp belt



Application

DX-MAT IW is appreciated for the superior qualities it offers for resistance to tear, resistance to perforation in applications with strong impacts and the effect of high temperature from burning materials.

DX-MAT is utilised in special applications found in hard rock quarries, iron and steel industries and foundries.

DX-MAT is utilised for elevator belt applications requiring very high tensile strengths and yet minimal belt elongation, this belt will be presented in a separate brochure.

Construction

DX-MAT IW is a steel mesh conveyor belt made with steel-cords in the warp direction and protected by steel cords laid in the weft direction.

DX-MAT IW generally uses the Fleximat ® IW carcass.

In the DX-MAT IW carcass, the warp steel cables (type E) provide for both a limited elongation and a resistance to the compressive effects of impacts on the belt.

Compared to conventional steel cord belts, the weft of DX-MAT IW is composed of high elongation thin steel wires (type HE) to offer superior impact resistance.

DX-MAT IW offers superior impact and tear resistance.



Vulcanizing and mechanical fastening

DX-MAT IW conveyor belts are normally joined by hot vulcanising (ref to DEPREUX splicing procedure).

It is also possible to mechanically fasten DX-MAT IW belts but you should consult with our technical representative for the appropriate type of fastener.

Belt structure

Cover characteristics: see table on page 14.

Thicknesses and weights for different specifications, please contact us.

Description of product

DX-MAT iw 800 - 1000 - 6 + 3 - X

DX-MAT iw : Conveyor belt with straight steel (E) warp and steel weft (HE)

800 : Tensile Resistance of the belt in N/mm

1000 : Conveyor belt width in mm

6+3 : Cover thickness in mm

X : Cover type

Pulley diameter

Recommendation for pulley diameters see table on page 15.



Comparison of different constructions for anti abrasive belts in type 1600 N/mm and effective cover of 6+2

TYPE Products	Multi ply EP DELTA 1600/4	Straight-Warp DX FLEX 1600/1 1600/2		DX FLEXAMID 1600/1	Solid Woven DYNA 1600/1	Steel cord DX/ST 1600/1
DIMENSIONS AND CONSTRUCTION						
WARP	Polyester	Polyester		Aramide	Polyester	Steel Cable
WEFT	Polyamide	Polyamide		Polyamide	Polyamide	Steel Breaker or Textile
Other Construction fabrics		Polyamide		Polyamide	Cotton	
Number of Plies	4	1	2	1	1	0
Requested total thickness of the Covers	6+2	6+2	6+2	6+2	6+2	6+2
Recommended thickness of the Covers	8+3	8+3	8+3	8+3	6+2	8+4
Carcase definition	4 textiles plies + 3 rubber interlayers	1 textile ply	2 textile plies + 1 rubber interlayer	1 textile ply	1 impregnated PVC carcase	Steel Cable + 1/2 Diam cable on top + 1/2 Diam cable on bottom to ensure carcase integrity
Total thickness of the carcase	7	5,5	8,4	3,2	8,5	5 + 2,5 + 2,5 = 10
Belt total thickness	18,9	13,5	16,4	11,2	16,5	16
Weight (average) (kg/m ²)	18,7	14,4	17,6	13,5	20	22,6
MECHANICAL PROPERTIES						
Warp Resistance	1600	1600	1600	1600	1600	1600
Longitudinal elongation at break	14	14	14	4	14	3
Range of operating temperatures	-25°C to +80°C	-25°C to +80°C	-25°C to +80°C	-25°C to +80°C	0°C to +40°C	-25°C to +80°C
RESISTANCE TO POSSIBLE INCIDENTS						
Punctures from impact	+	++	++	+	+++	+ (corrosion risk and liquid penetration between the cables)
Longitudinal tearing	+ or +++ if special fabric (1KN)	+++ if reinforced weft (5KN)	+++ if reinforced weft (5KN)	+	++ or +++ if reinforced weft (2 or 3 KN)	+ or ++ if breaker
Edge wear	+	++	++	++	+++	+
Fastener holding (mechanical joining)	+	++	++	+	+++	+ if breaker
Cover wear performance	+	+	+	+	+++	+
FLEXIBILITY						
Transverse flexibility, Troughability	+	++	+	+++	++	+++
Longitudinal flexibility (on drum)	+	+++	++	+++	++	+
ELONGATION						
Typical Elastic Elongation (%)	0,7	0,5	0,5	0,3	0,5	0,2
Permanent elongation	0,5	0,3	0,3	0,1	0,4	low
Elongation on long conveyor (1000m center to center) (m)	3,5	2,5	2,5	1,5	2,5	1,0
OTHERS PROPERTIES						
Safety factor	> 8	> 8	> 8	> 8	> 8	> 6
Splicing method	Cold or hot splice by step method	Hot splicing with finger + reinforced fabric method	Hot splicing with finger + reinforced fabric method	Hot splicing with finger + reinforced fabric method	Hot splicing with finger + reinforced fabric method	Hot splicing with cathedral step method
Minimum diameter Head drum(mm)	1250	800	1000	800	800	1000

Rubber cover

Designation	Also complies with							Application	Abrasion (mm ³)	Breaking strength (Mpa)	Breaking Elongation (%)	Temperature	Composition
	DIN 22102	ISO 10247	US	AUSTRALIAN AS 1332	BRITISH BS490	CHINESE GB / T7984 Piled	CHINESE GB / T9770 Steel Cord						
B			RMA2			L		Moderately abrasive materials with a low granularity such as: sand, earth and coal, in normal conditions	<150	>14	>400	-25°C à +80°C	SBR/BR
X	X	H		AS M	M24	H	H	Sharp material, blocks	<120	>25	>450	-25°C à +80°C	NR/BR
Y	Y		RMA1	AS N	M17		L	Abrasive materials of medium granularity	<150	>20	>400	-25°C à +80°C	NR/SBR/BR
W	W	D				D	D	Highly abrasive materials	<90	>18	>400	-25°C à +80°C	NR/SBR/BR
SH				AS A				Highly abrasive materials	<70	>20	>450	-25°C à +80°C	NR/SBR
ICE/STICK								Abrasive materials, thin and sticky, use at very low temperatures	<50	>14	>350	-45°C à +80°C	NR/BR/SBR

Special cover

The ICE / STICK cover is a rubber cover that combines both excellent cold resistance and excellent anti sticking.

- Recommended when the environment is very cold to a temperature of -45 ° C.
- Use for the transport of sticky materials such as clay, mud, wet cement, compost ... when a belt cleaner is not sufficient
- Excellent resistance to abrasion, <50mm³.
- Can be combined with all types of our carcase ranges: DELTA, DYNA, DX-FLEX, DX/ST...



PVC cover

Designation	Breaking strength (Mpa)	Breaking elongation (%)	Abrasion (mm ³)	Temperature	Composition
PVC	>15	>350	<140	+0°C à +50°C	PVC

Hot splicing products

DEPREUX can supply the following splicing material. Please read carefully DEPREUX splicing procedure for the product you need to splice, or consult us before ordering the splicing material.

1) Splicing material in bulk, which is the most competitive option:

- Dissolution, packaging by 1, 5, 10 or 25 litres
- Skim, packaging by 25 ml roll, width 500 mm and thickness of 0.5 mm
- Cover, conditioning by 25 ml roll, width 500 mm and thickness 1, 2, 3 or 4 mm
- Scrim fabric dipped with RFL (SBR latex) or RFL(NBR latex) in 10m roll length, and 1500 mm width (to be cut to 45 °) to be used for splicing DX-FLEX or DYNA or DYNA-P belts PVC paste in tins of 5 liters for DYNA and DYNA-P belts

2) Splicing material in individual kits:

- for DELTA, DELTA selftrack and DX-MAT belts, they consist of: dissolution + skim + cover
- for DX-flex and DX-flexamid belts, they consist of: dissolution + skim + cover + scrim fabric
- for DYNA and DYNA-P belts, they consist of: PVC paste + scrim fabric + cover
- for DX/ST belts, they consist of: dissolution + noddles + skim + cover

3) Kits simplified

- Dissolution + Skim

RECOMMENDED MINIMUM PULLEY DIAMETERS (MM)



DELTA, DELTA CFW or DELTA SELFTRACK

Tensile Strength N/mm	315	400	500	630	800	1000	1250	1400	1600
Number of plies	2	3	3	4	4	4	4	4	4
Pulley type A	250	315	400	500	630	800	1000	1000	1250
Pulley type B	200	250	315	400	500	630	800	800	1000

DX FLEX or DX-FLEX RT

Tensile Strength N/mm	400	500	630	800	800	1000	1000	1250	1600	1800
Number of plies	1	1	1	1	2	1	2	2	2	2
Pulley type A	315	315	315	500	630	630	800	800	1000	1000
Pulley type B	250	250	250	400	500	500	630	630	800	800

DX-FLEXAMID

Tensile Strength N/mm	1600	1800	2000	2500	3150		
Pulley type A	800	1000	1000	1250	1250		
Pulley type B	630	800	800	1000	1000		

PVG-PVC-DYNA

Tensile Strength N/mm	400	500	630	800	1000	1250	1400	1600	1800	2000	2500
Number of plies	1	1	1	1	1	1	1	1	1	1	1
Pulley type A	400	400	500	500	630	800	800	800	1000	1000	1250
Pulley type B	315	315	400	400	500	630	630	630	800	800	1000

STEEL CORD

Tensile Strength N/mm	ST630	ST800	ST1000	ST1250	ST1600	ST2000	ST2500	ST3150	ST3500	ST4000	ST4500	ST5000	ST5400	ST6300
Number of plies	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pulley type A	500	500	630	800	1000	1250	1400	1500	1600	1600	1600	1800	1800	1800
Pulley type B	400	400	500	630	800	1000	1000	1250	1250	1250	1250	1400	1400	1400

DX MAT

Tensile Strength N/mm	IW500	IW630	IW800	IW1000	IW1250	IW1400	IW1600
Number of plies	1	1	1	1	1	1	1
Pulley type A	500	500	800	800	1000	1000	1000
Pulley type B	400	400	630	630	800	800	800

Pulley Type A: High tension pulleys Wrap: Head, Drive, Tripper

Pulley Type B: Low tension pulleys Wrap: Tail, Take-up, Take-up bend

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 stock belting specifications
- Cutting services to customise belts width and length
- Pre-drilling of elevator belts on request
- Buckets for elevator belts together with related fastening and installation equipment (eg: bolts, clips...)
- A "one stop shop" for conveyor belt related products such as splice kits, glues, mechanical fasteners, idlers, loading stations, belt cleaners, vulcanising presses...
- Short delivery periods
- Most importantly, high quality technical service and support at all times.

DEPREUX is part of the COBRA GROUP.
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