

FAT RESISTANCE CONVEYOR AND ELEVATOR BELTS





The oil resistant conveyor and elevator belts are used to transport material that contain mineral oil components or to transport some special chemical products. For examples:

- when oily components are present in the transported material such as fuel oil in coal or fertilizers, lubrication oils in metal recycling, foundries, steel processes, waste industries or in the case of any lubricant chemicals,
- for the transport of a chemical component that has good chemical compatibility with nitrile NBR rubber which is the main elastomer used in the rubber covers.

The presence of oily components in the transported material can have dramatic effects on a standard belt:

- it will degrade the mechanical properties of the covers: abrasion and tensile strength at break mainly
- the belt will absorb oil and swell, causing covers deformation and loss of adhesion between the carcass and the rubber around it.

The effects can be more or less dramatic depending on the nature of the oily components (aliphatic and naphtenic oils are for example very aggressive), and the effects increase exponentially with temperature. We developed two types of oil resistant belt:

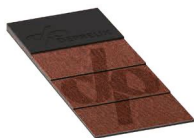
- G1 / MOR : Medium Oil Resistant,
- G2 / SOR : Super Oil Resistant.

To transport oily products for agriculture or food industry, please refer to the TRANSCO brochure.

Belt construction

Conveyor and elevator belts are composed of:

- **fabric or steel carcass.**
- **two rubber or PVC covers** : a top cover ensuring contact with the transported material and the bottom cover ensuring contact with the conveyors drums.



MULTIPLY

DELTA FAT



**POLYESTER
STRAIGHT-WARP**

DX FLEX



**ARAMID
STRAIGHT-WARP**

DX FLEXAMID



SOLID WOVEN

DYNA FAT



STEEL CORD

DX-ST



**STEEL
STRAIGHT-WARP**

DX-MAT

The herebelow table lists the operating range, swelling factor, and cover properties of the different belts that DEPREUX offers for this application.

It is to be noted that PVC is a very competitive option for superior oil resistant requirements.

However its long term longevity will be inferior to solutions including 100% nitrile.

Categories of oil resistance	Composition	Property	Swelling test		Covers				
			IRM902 28J at 20°C (%)	IRM903 72H at 70°C (%)	Abrasive index (mm3)	Break resistance (Mpa)	Elongation at break (%)	Temperature range	
								DELTA FAT / DXFLEX / DX-ST / DX- MAT	DYNA FAT / DYNA P
G1 / MOR	SBR/NBR	Medium resistance to standard oils and conventional hydrocarbons	<15		<150	>16	>350	-25°C to 80°C	-
G2 / SOR	100 % NBR	Superior resistance to standard oils and conventional hydrocarbons		<5	<140	>16	>350		0°C to 50°C
PVC	PVC	Superior resistance to standard oils and conventional hydrocarbons Good resistance to cuts		<5	<140	>15	>350	-	

In the metal recycling industry, there can be a requirement for both a superior oil resistant cover and a highly cut, tear and impact resistant cover and carcass. The solid-woven belts, DYNAFLAM with rubber covers, and DYNA-P with PVC covers can be two excellent options.