

FLAME RESISTANT CONVEYOR BELTS

We produces safety flame resistant belts for installations in underground and aboveground mining. Flame resistant conveyor belts are:-specially designed to handle loose and lump materials in explosion-hazardous locations (type 1); -designed especially for aboveground mining applications, when fire resistance is required (type 2 and type 3);-designed for applications which require fire and oils resistance(type 4), in the range of temperature(-30...+70°C). The carcass of the belts consists of several plies of EP fabrics separated by fire-resistant rubber interlayer and covered with fire-resistant rubber covers. Rubber covers have anti-static properties and prevent the possibility of fire spreading when it occurs an explosion in the mine galleries.

Characteristics required for flame resistance conveyor belt

Flame resistant conveyor belts meet all requirements of fire protection standards included in DIN 22 102 and they have improved fire resistance (DIN 22 103) and anti-static properties (DIN 22 104). The carcass is formed of rubber –polyester / polyamide textile plies.

Products characteristic

The carcass is made of polyester/ polyamide (EP) fabrics.

Dimensions	Width , mm			800 – 1600 ± 1%								
	Thickness, mm			8 - 20								
	Deviation from thickness	belt	under 10mm	± 1mm								
			over 10mm	± 10%								
		rubber cover	under 10mm	± 0.2mm								
			over 10mm	± 5%								
Length, m, max.			300 ± 0.5%									
Insertion's characteristic	Insertion number			2 - 6								
	Type of insertion			EP 80	EP 100	EP 125	EP 160	EP 200	EP 250	EP 315	EP 400	EP 500
	Tensile strength, kgf, (for 50mm*200mm)	longitudinal	500	700	800	1000	1200	1500	2000	2200	2800	
		transversal	250	250	350	380	500	500	500	500	500	
Adhesion, kgf/cm, min	Between plies			5								
	Between insertions and rubber cover	Under 1.5mm	3.5									
		Over 1.5mm	4.5									
Edges				Covered edges								
Surfaces				Both surfaces covered								
Breaking force of conveyor belt, (kgf/cm)				It is given by the type and number of insertions								

Fire resistance	Group 1: anti-static and fire resistant(designed for underground mining service)	Surface electrical resistance, drum friction test result and flame resistance are in accordance with the demands specified in "Certification services for underground mining equipment and materials" by CDM (Canadian Department of Mines)
	Group 2: anti-static and flame resistant belts (designed especially for aboveground mining applications that require fire resistance).	Surface electrical resistance, (in accordance with DIN 22104), max.3 * 108 OHM ;Flame resistance (in accordance with DIN 22103): -flame persistence (after removing the burner) must be under 45 s for each group of six test pieces and each single value not be over 15 s; -the flame must not reappear after air current application; - flame test: three pieces with covers and three pieces without covers
	Group 3: anti-static and flame resistant belts K (designed especially for aboveground mining applications that require fire resistance).	Surface electrical resistance, (in accordance with DIN 22104), max.3 * 108 OHM ;Flame resistance (in accordance with DIN 22103): -flame persistence (after removing the burner) must be under 45 s for each group of six test pieces and each single value not be over 15 s; -the flame must not reappear after an air current application; - flame test: six pieces with covers.
	Group 4: anti-static, oil& flame resistant belts (designed for applications that require fire and oils resistance).	Surface electrical resistance, (in accordance with DIN 22104), max.3 * 108 OHM ;Flame resistance (in accordance with DIN 22103): -flame persistence (after removing the burner) must be under 45 s for each group of six test pieces and each single value not be over 15 s; -the flame must not reappear after an air current application.

Cover rubber grade

Cover grade		Tensile strength, min (daN/cm ²)	Elongation at break, min., (%)	Abrasion loss, max, (mm ³)	Resistance to oils, volume change, 70hr*70°C, max(%) ^{*)}	
Group	norm				ASTM #1oil	ASTM #3oil
1	DIN 22 102	150	350	200	-	-
2	DIN 22 102	150	350	200	-	-
	DIN 22 102	150	500	150	-	-
3	DIN 22 102	150	500	150	-	-
	DIN 22 102	150	350	200	-	-
4	DIN 22 102	140	350	200	± 8	± 25

^{*)} Only for anti-static, oil & flame resistant conveyor belt.

^{**)} Flame test: three pieces with covers and three pieces without covers (S).

^{****)} Flame test: six pieces with covers (K).

Note Cover rubber grade is type Z (DIN 22102) for all four groups.