

Compounds

Operating conditions demand the correct cover compound.

Pure and simple, the primary purpose of conveyor belt “compounds” is to protect the valued carcass. Carcass compounds, skim and cable rubber formulations provide the adhesion and flexibility the belt needs while facing continual dynamic challenges of the conveyor system. Cover compounds must be of sufficient quality and thickness to withstand the varied operational and environmental hazards present.

Compounds, including both the carcass and cover varieties, are essentially elastomeric recipes. Each such recipe typically includes a primary polymer which defines the “grade” or expected function of the compound. Also included are a number of supporting ingredients, such as carbon black, plasticizers, curing agents, and clays/fillers. Today, the number of different compound recipes available from these individual components is staggering. Fenner Dunlop analyzes these seemingly endless options through extensive research and development, rigid quality control testing, and years of application experience. Only from such a thorough study can they be assured of providing the most innovative, and appropriate, compounds to meet today’s increasing material haulage demands.

Bottom line...when both the cover and carcass compounds are functioning together as a team, you have a conveyor belt solution that truly can provide the lowest cost per ton of material conveyed. Fenner Dunlop is committed to working with each and every customer in satisfying that challenge!



General Service Covers

Matchless® (ARPM Grade I)

- Superior endurance against combined cutting, gouging and heavy impact
- Recommended for transporting large, heavy lump ores, rocky earths, granite trap rock and quartz
- Unequaled in conveying heavy logs from the debarker
- Very good abrasion resistance
- Superb for glass cullet handling and other types of sharp, abrasive material

Matchless® Plus (ARPM Grade I)

- Provides enhanced features to Matchless with increased cut and gouge characteristics
- Compound for the most severe cut, gouge and impact applications
- Good abrasion resistance
- Compliant with European DIN Standard "X"

Platinum® (ARPM Grade I)

- Excellent endurance against heavy, continuous abrasion
- Excellent resistance to cut and gouging
- Cost effective upgrade from Grade II products
- Recommended for very aggressive abrasion applications, such as aggregates, crushed ores and rock, slag, Run-of-Mine materials, coal mine refuse and coke/sinter

Platinum® Plus (ARPM Grade I)

- Ultimate high tensile compound that combines the best of impact **and** abrasion resistance
- Physical properties compliant with DIN X standards

Granite® (ARPM Grade II)

- Excellent where heavy, continuous abrasion is the primary concern
- Good resistance to cutting and gouging
- Recommended for most abrasive material handling applications, such as aggregates, limestone, sand and gravel, potash, trona, salt, Run-of-Mine and sized coal, and coal mine refuse

Abrader® (ARPM Grade II)

- Good abrasion, cut and gouge resistance
- Meets new ARPM 175 mm³ abrasion limit
- Recommended for most abrasive material handling applications, such as aggregates, sand, and gravel

Titanium® (ARPM Grade I)

- Recommended for applications requiring superior resistance to abrasion and wear
- Provides increased service life without increasing cover thickness
- Performs well in high impact applications

DIN Y (ARPM Grade I)

- Provides increased service life without increasing cover thickness
- Recommended for applications requiring excellent resistance to abrasion and wear
- Performs well in high impact applications
- Compliant with European DIN standard "Y"

ZR1® (ARPM Grade II)

- Offers absolute best resistance to heavy, continuous abrasion
- Good resistance to cutting and gouging



Specialty Cover Compounds

Static Conductive Compounds

Greatly exceed the requirements as set forth by OSHA, tested by ASTM 25 and ISO 284 procedures

OSHA

Surpasses U.S. Occupational Safety and Health Administration specifications for static conductivity

CSA

Meets Canadian Standards Association M422 – M87 current specification for Grade C

Duroslide®

- Low coefficient of friction slider bed compound for the Wood Product Industry
- .30 coefficient of friction
- Non-reverting, non-marking dark brown compound

ClimateGuard

- Excellent resistance to oil and heat up to 250° F (120°C) temperatures for coarse lumps (2 inches +/- 50mm) and 200° F (93° C) for abrasive fines
- Also provides excellent oil resistance down to -50° F (-46° C)
- Provides excellent abrasion resistance at both below zero and elevated temperatures

Natural Tan Gum

- Natural rubber compound for slow down conveyor applications in the Wood Products Industry
- Soft compound with high coefficient of friction
- Non-marking, highly abrasion resistant tan rubber compound

Compound Specifications

Recommended MINIMUM Cover Thickness

Class of Material	Top Cover		Bottom Cover	
	Inches	mm	inches	mm
NON-ABRASIVE MATERIALS - Wood Chips, Pulp, Grain, Loose Cement, Potash Ore or very fine Coal	1/16 to 1/8	1.5 to 3.0	1/16	1.5
MILDLY ABRASIVE MATERIALS - Sharp Sand, Clinker, Earth, Bituminous Coal and Rock under 3" size.	1/8 to 3/16	3.0 to 4.5	1/16	1.5
ABRASIVE MATERIALS - Anthracite Coal, Coke, Sinter, Gravel, or Crushed Stone. Overburden or coal up to 10" size. Iron and Copper ores or Limestone under 6" size	3/16 to 1/4	4.5 to 6.0	3/32	2.0
HEAVY ABRASIVE MATERIALS - Iron, Copper, Rock Ores, Zinc, Lead Ores, or ROM coal, Limestone or Slag under 9" size.	1/4 to 3/8	6.0 to 9.5	1/8	3.0
HEAVY, SHARP ABRASIVE MATERIALS - Trap rock, quartz, Hard Ores, Slag, glass cullet. Any hard heavy sharp ore over 9" size.	3/8 to 3/4	9.5 to 19.0	3/16	4.5

Recommended Service Temperatures

Cover Weight Factors

Type of Compound	HOT – <u>Maximum</u> Load Temperature		COLD – <u>Low</u> Temperature Limit	lbs/in/ft ... per 1/32" thickness	kg/m ² ... per 1 mm thickness
	Fines or mixed	Coarse 2" or More			
CWOR, MATCHLESS, MATCHLESS PLUS, DIN X	180 °F 82 °C	200 °F 93 °C	-50 °F -46 °C	.016	0.936
GRANITE, ZR1, GUARDIAN AR, PLATINUM, PLATINUM PLUS, TITANIUM, DIN Y, ABRADER	180 °F 82 °C	200 °F 93 °C	-40 °F -40 °C	.016	0.936
MOR, MOR (E), ORP, ORWP, UGH	180 °F 82 °C	200 °F 93 °C	-30 °F -34 °C	.016	0.936
MINING FFORN, ORN, MINING FFORNS	205 °F 96 °C	225 °F 110 °C	-15 °F -26 °C	.017	0.994
FIRE BOSS, FIRE BOSS V, FIRE BOSS AR	180 °F 82 °C	200 °F 93 °C	-30 °F -34 °C	.019	1.111
CLIMATEGUARD	200 °F 93 °C	250 °F 120 °C	-50 °F -46 °C	.016	0.936
CGH, CSA-FF, CSA-FFOR, MINING-FAR, MINING-FFAR, MINING-FFSAR, MINING FFOR	180 °F 82 °C	200 °F 93 °C	-40 °F -40 °C	.018	1.053
DELTAHEAT	350 °F 175 °C	400 °F 205 °C	-40 °F -40 °C	.015	0.887
BUTYL, WHITE DELTAHEAT	300 °F 150 °C	350 °F 175 °C	-40 °F -40 °C	.015	0.887
SAHARA, SAHARA SAR	250 °F 120 °C	300 °F 150 °C	-40 °F -40 °C	.015	0.887
OHR	200 °F 93 °C	250 °F 120 °C	-10 °F -23 °C	.015	0.887
SOHR	300 °F 150 °C	350 °F 175 °C	-10 °F -23 °C	.015	0.887
CSA-FFAR, GUARDIAN OR	180 °F 82 °C	200 °F 93 °C	-40 °F -40 °C	.017	0.994
GUARDIAN, GUARDIAN CA	200 °F 93 °C	225 °F 110 °C	-30 °F -34 °C	.017	0.994

Contact Fenner Dunlop for special applications and/or cover compounds.