



Instruction for use of Conveyor belts
CONTINENTAL MATADOR RUBBER s.r.o.

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1. Conveyor belts utilization

Transportation of materials by means of conveyers is wide-spread in many industries and it enables high productivity and also economical effectivity in various conditions of its putting. Recent years development of belt conveying is very fast and it is registered in its design as well as possibilities of its usage. High technical standart and a quality of conveyor belts MATADOR ensure operational reliability and long operational life.

Conveyor belts are used to transport big quantity of loose and lump materials. Transfer lenght can be various from some metres up to distances of kilometres (long distance belt conveying). Conveyor belts are used in mining industry, in metallurgy, construction industry, energetics, agriculture and many other industries.

Material transportation is performed on conveyor belt been on the move on roller benches while the belt is adapted to the form of roller benches.

2. Product description

Conveyor belt consists of supporting carcass, upper and lower rubber cover and rubber protecting edge or without it – cut edge.

Textile conveyor belts (thereinafter GTDP) have supporting carcass comprised of 1 up to 6 rubber polyamid (P) or polyester (EP) textiles. They are manufactured in strenght series from 200 to 3500 N/mm and with the width range from 400 to 2400 mm.

Steel cord conveyor belts (thereinafter OKDP) have supporting carcass comprised of steel cords of different diameters and strenght which are placed on the same level in core rubber. They are manufactured in strenght series from ST 1000 to ST 5000 and with the width range from 800 up to 2400 mm.

Upper cover grade protects the carcass of conveyor belt from upper side against external influences (e.g. machanical damage, impacts of humidity as well as chemical and technical influences affecting the product). This part comes in contact with transported material.

Carcass of conveyor belt serves the purpose of transport of tension powers from driving drum to conveyor belt and ensures it needed strenght and anti-stroke resistance.

Lower cover grade comes in contact with rollers and drums of conveyer and it protects the carcass against abrasive effects. Important factor is adhesion of cover with carcass because it insures transport of drive moment from driving drum to carcass.

Rubber protecting edge protects the carcass of conveyor belt against lateral damage.

3. Usage of conveyor belts in dependence on working conditions.

TRANSBELT

GTDP for general use to transport loose and lump material transport under typical working conditions, at max. temperature of transported material $+70^{\circ}\text{C}$ and ambient temperature range from -25°C to $+60^{\circ}\text{C}$

Use of cover grades categories in relation to the kind of transported material:

- A - designated to transport of abrasive and angular and great lump-size material
- AA - designated to transport of very abrasive, granular and loose material
- B - designated to transport of slightly abrasive, angular and small lump-sized material
- Z - designated to transport of loose, granular and slightly abrasive material
- AA sp – designated to transport of very abrasive, granular and loose material

Typical use:

gravels, lime-kilns, cement factories, thermal power stations, mining industry, raw materials extraction and their treatment, dumps, docks and manufacturing industry.

STEELBELT

OKDP are applicable for material transport over long axial distances and under arduous conditions, at max. transported material temperature $+70^{\circ}\text{C}$ and ambient temperature range from -25°C to $+60^{\circ}\text{C}$. Small elongation under load and their good adaptability to conveyor bed make them suitable for a usage under arduous conditions

Use of cover grades categories in relation to the kind of transported material:

- M - suitable for transport of abrasive, angular, heavy and great lump-sized material
- N - designated to transport of slightly abrasive granular, loose material
- NAA - mainly designated to transport of very abrasive material of small lumpiness

Typical use:

Long-distance belt conveying, quarry, docks, dump, power stations, cement factories

SHOCKBELT

Conveyor belts in textile or steel cord version designed for transport of great lump-size unsorted material under adverse impact fracture. They have increased resistance to spreading of breaches caused by falling material under max. transported material temperature $+70^{\circ}\text{C}$ and ambient temperature range from -25°C to $+60^{\circ}\text{C}$ besides cover grade category „R“.

Use of cover grade categories in relation to the kind of transported material:

GTDP

- A - designated to transport of abrasive, granular, great lump-sized material
- AA - designated to transport of very abrasive, granular and loose material
- R - designated to transport of loose, lump material under extremely low temperatures up to -60°C and ambient temperature range from -40°C to $+60^{\circ}\text{C}$

OKDP

- M - suitable for transport of abrasive, angular, heavy and great lump-sized material
- N - designated to transport of slightly abrasive granular, loose material
- NAA - mainly designated to transport of very abrasive material of small lumpiness
- R - designated to transport of loose, lump material under extremely low temperatures up to -60°C and ambient temperature range from -40°C to $+60^{\circ}\text{C}$

typical use:

technological units of single stripping operation, stone-pits, transport of heavy and great lumpiness

FIREBELT V

Conveyor belts in textile or steel cord version designed for transport of materials in underground spaces at max. transported material temperature $+70^{\circ}\text{C}$ and ambient temperature range from 0°C to $+60^{\circ}\text{C}$.

Typical use:
Underground mines

FIREBELT K

Conveyor belts in textile or steel cord version designed for transport of loose and lump material in fire hazardous locations with danger of explosion at max. transported material temperature $+70^{\circ}\text{C}$ and ambient temperature range from -25°C to $+60^{\circ}\text{C}$.

Typical use:
Coal stocks, thermal power stations, calandrias, coal processing, mining industry

THERMBELT

GTDP are designed for transport of hot loose and lump material under ambient temperature range from -20°C to $+80^{\circ}\text{C}$. We recommend to use them in cases where the transported material temperature above 60°C .

Use of cover grade categories in relation to kind of transported material:

D - designated to transport of materials with recommended temperature of belt surface $+125^{\circ}\text{C}$

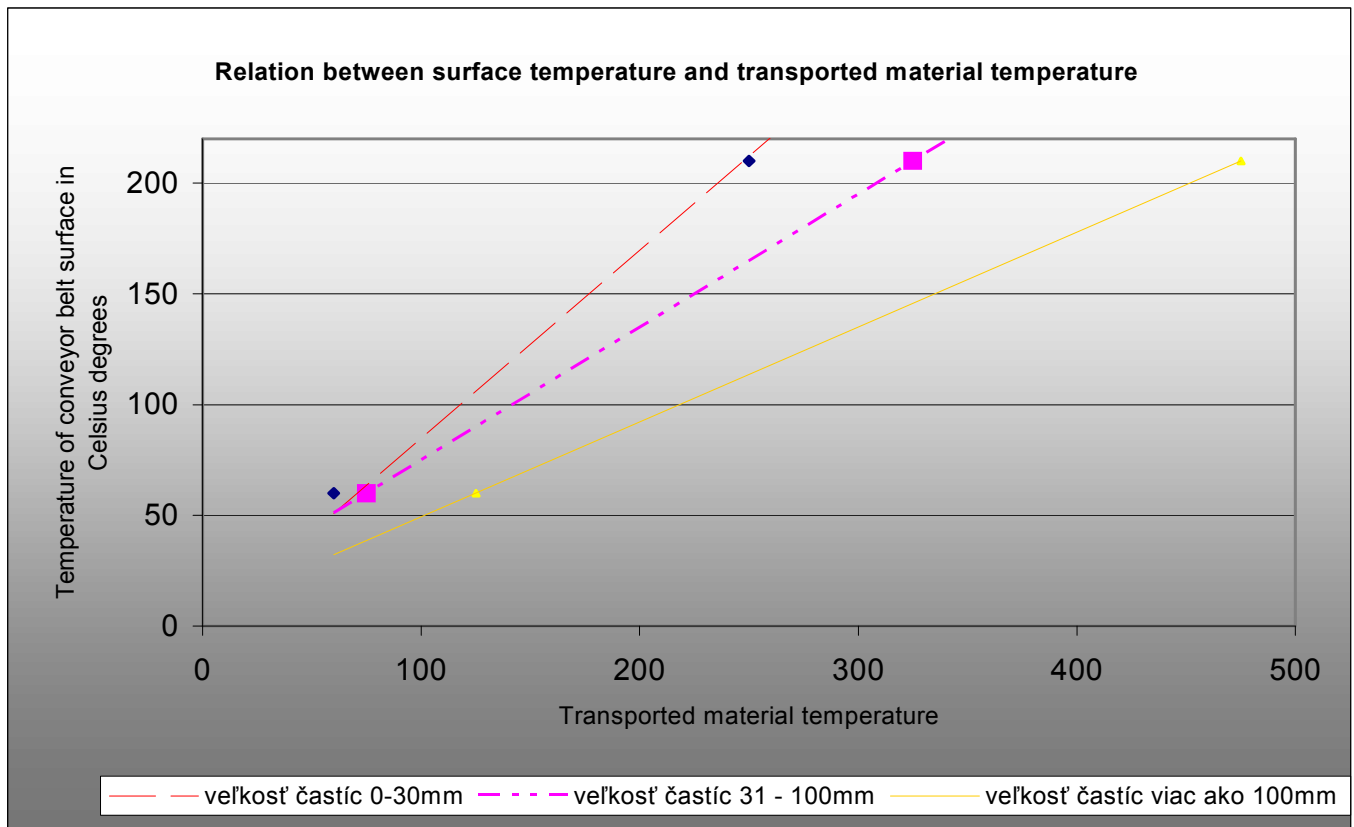
H - designated to transport of materials with recommended temperature of belt surface $+150^{\circ}\text{C}$

T3 - designated to transport of materials with recommended temperature of belt surface $+175^{\circ}\text{C}$

For a short-term, belt surface temperature can be higher whereby temperature of transported material surface can be under certain conditions considerably higher as recommended temperature of belt surface (see the graph).

Permanent exceeding of recommended temperature on belt surface will cause decreasing of belt operational life.

Typical use:
Thermal power stations, metalworks, metallurgical factories, cement factories, chemical industry, glassworks



FROSTBELT

Conveyor belts in textile or steel cord version mainly designed for transport of loose and lump material up to -60°C at very low ambient temperatures from -40°C to $+60^{\circ}\text{C}$.

Typical use:

Conveyor equipments operating at low climatic temperatures, freezing industry, greater machines, long-distance conveyer transport

ECOTUBELT

GTDP designed to transport of ecologically dangerous materials that cause severe pollution of the environment under maximal temperature of transported material $+70^{\circ}\text{C}$ and ambient temperature range -25°C to $+60^{\circ}\text{C}$ besides cover grade category „D“.

Use of cover grade categories in relation to the kind of transported material:

- A - designated to transport of abrasive, angular and great limp-sized material
- AA - designated to transport of very angular, granular and loose material
- D - designated to transport of hot materials at temperatures of the site up to $+125^{\circ}\text{C}$

For a short-term, belt surface temperature can be higher whereby temperature of transported material surface can be under certain conditions considerably higher as recommended temperature of belt surface.

Permanent exceeding of recommended temperature on belt surface will cause decreasing of belt operational life.

Typical use:

calandrias, lime-klin factories, cement factories, steelworks, docks

OILBELT

GTDP are designed to transport of oily and greasy materials containing non-polar organic solvents and fuel at max. temperature of transported material $+70^{\circ}\text{C}$ and ambient temperature range from -25°C to $+60^{\circ}\text{C}$ besides cover grade category „GT“.

Use of cover grade categories in relation to the kind of transported material:

- G - designated to transport of oily and greasy materials containing non-polar organic solvents and fuel.
- GMOR - conveyor belt with middle resistance to mineral oil substances
- GT - conveyor belt with resistance to mineral oil substances as well as higher temperatures up to $+120^{\circ}\text{C}$

Typical use:

Chemical industry, engineering industry, foundry industry, waste treatment and agriculture

CHEMICALBELT

GTDP are designed for the working environment with the action of chemical agents, to transport materials containing inorganic acids and bases at max. temperature of transported material $+70^{\circ}\text{C}$ and ambient temperature range from -20°C to $+70^{\circ}\text{C}$

Typical use:

Chemical industry

Conveyor belts can be used also in other manufacturing as well as non-manufacturing industries

4. Conditions of conveyor belts use

- While using of conveyor belts must be met conditions of its stress according to figures in this chart

Type designation of conveyor belt	Strenght of conveyor belt in tension in N.mm^{-1}	Allowable stress in tension in N.mm^{-1}
200	200	20
250	250	25
315	315	31,5
400	400	40
500	500	50
630	630	63
800	800	80
1000	1000	100
1250	1250	125
1600	1600	160
2000	2000	200
2500	2500	250
3150	3150	315

- Conveyor belt must not be used for passenger transport

- Conveyor belt must not be used in the working environment as well as material transport for which is not designated by its properties.
- Conveyor belt must be linked by connecting material and according to procedure recommended by the manufacturer.
- Tension of conveyer must work perfectly and tension power should be permanently register.
- Conveyor belt must not evert from bearing rollers neither to scrape on conveyer framework .Bearing and bulkhead rollers must fulfil their functions perfectly.
- Between the drums of conveyer and conveyor belt must not get any transported material eventually other articles. Under the conveyer must be maintained cleanness permanently to avoid mechanical damage of conveyor belt .
- While handling with unfolded conveyor belt it is necessary to protect against abnormal folding (fracturing)
- While handling with conveyor belt parcel must not come to damage of protecting edges. Especially while lifting by crane must be hanging chains or ropes spread the way not to handle the parcel.
- Conveyor belt parcel must not be exposed to downfall impact on hard or uneven base.
- Conveyor belt must not be damaged by other mechanisms.

5. Inspection controls

During planned layoffs of conveyers, though maximum in two –weeks intervals, should be provided inspection control of mounted conveyor belts on the conveyers whereas with special attention to the state of:

covers
lateral edges of belt
carcass
joint
overall state of conveyor belt
overall state of conveyer (rotary parts, added devices etc.)

6. Linking of conveyor belts

GTDP are linked as follows :

- By hot curing following „Instructions for linking of GTDP by hot curing“ CONTINENTAL MATADOR RUBBER s.r.o., Púchov.
- By cold curing (pasting) following „Instructions for linking of GTDP by cold curing“ CONTINENTAL MATADOR RUBBER s.r.o., Púchov.
- mechanically

OKDP are linked by hot curing following „Instruction for linking of OKDP by hot curing“ CONTINENTAL MATADOR RUBBER s.r.o., Púchov.

For linking of GTDP MATADOR by hot curing is used special linking material fabricated in CONTINENTAL MATADOR RUBBER s.r.o., Púchov.

For linking of GTDP MATADOR by cold curing (pasting) it is recommended to use linking material from specialized producers.

For linking of OKDP MATADOR is used special linking material fabricated in CONTINENTAL MATADOR RUBBER s.r.o., Púchov.

7. Storage

Textile conveyor belts are within storing up to three months deposited freely on flat, enough bearing and dehydrated stock, the best is the concrete one.

While storing during four to twelve months the conveyor belts must be in stock covered by waterproof material.

While storing that lasts longer than twelve months the conveyor belts must be hung on stands placed under a shelter.

Freely located parcels of the conveyor belts must not be stacked.

Steel cord conveyor belts can be located freely and deposited freely on flat, solid and dehydrated place, the best is a concrete one, during the period of three months.

While storing up to six months the steel cord conveyor belts must be covered and placed on flat, solid and dehydrated place.

The steel cord conveyor belts stored over six months must be under a shelter and hung on stands.

If the steel cord conveyor belts are not placed on stands (while storing shorter than six months), they must be placed the way where the width of steel cord conveyor belts would be parallel with cargo space.

8. Conveyor belt treatment after expiry of its operational life

Conveyor belt after wearing of cover can be more times renovated dependently on the state of its carcass. After damaging of carcass, conveyor belt can be used as different mats or eventually as hydroinsulation. Processed into rubber crumb or crushed cord it can be used as a semi-product for different products. Liquidation of mutilated conveyor belt is allowed on waste dump and incinerating plant assigned for this purpose. Out of the Slovak Republic it is necessary to meet particular rules of the existing state.