

## Tanroll Belts

### TANROLL, TRULY ENDLESS BELTS FOR LEATHER PROCESSING

In the sector of leather and hide processing in general, Italian OEMs have a very important position across the world. Apart from the traditional appreciation of Italian Style, it is a matter of fact that the most advanced technology in hide processing is Italian as well.

#### TECHNICAL SPECIFICATIONS OF TANROLL BELTS

Description	Data	Accuracy
Rubber Compound	Multipurpose	-
Colour	Grey/Red (other colours available)	-
Top cover Thickness	7 mm	-
Total Thickness	11-14 mm	± 0.5 mm
Hardness °ShA	23°, 36°*	± 5°
Inner Length	Up to 2000 mm	± 10 mm
Inner Length	2001÷ 2600 mm	± 15 mm
Edge Bevelling	20 x 3 mm	-

\*other hardness available upon request

Tab 1

Typical application of TANROLL truly endless belts, manufactured by BeltTS srl, concerns one of the most delicate and characterising jobs on leather, and similar products, i. e. Dye Coating. This job requires a particular caution, as differences in colours may compromise the inner quality of semi-finished product and affect the aesthetic result and consequently its value.

The updated technology can positively and effectively solve any mechanical problem, however the quality of a Roller Coating Machine, along with its performance (hide coating), is based also on the surface of the belt that conveys the hide piece during the dyeing process



Picture 1: Roller Coating Machine

Together with the main OEMs, BeltTS srl Technicians focused their attention on basic aspects of the belts in direct connection with the application.

TANROLL belts are standardly made of:

- two/three polyester plies
- one skim coat, enabling adhesion and
- one sliding fabric made of black polyester as well

The features listed above ensure the quality needed for the following specific applications:

#### Seamless execution

Not only the coating uniformity of the hide is required. The absence of structural faults in coating, due to seamed belts, is also highly appreciated. The resulting faults originated by this type of structure are a decisive factor that affects the semi-finished product, decreases its value and is often not accepted at all. BeltTS srl technology prevents totally the effects of the variation, due to this type of faults. TANROLL belt is manufactured without seam and by means of cylindrical metal moulds, according to the exact dimension, as required for the application.

#### Cilindricity and edge bevelling

One of the main features of the belt is the in-between symmetry – in terms of inner length – of the edges. The accurate cylindricity insures an improved rectilinear behaviour during the job and originates two main benefits, preserving the integrity of the belt and enabling a better linear proceeding of the semi-finished product under the coating process. Bevelling of edges, likewise, limits the touch of the pigmenting roller with the edges of the belt. This is for controlling dye consumption.

## Mechanical properties

For a correct job of the belt on a roller-coating machine, it is necessary to apply the proper longitudinal pressure. This is required to insure a correct operating linearity and prevent a hazardous slipping between the inner of the belt and the roller of the machinery. TANROLL belts are designed and manufactured to support this mechanical stress and maintain their operating characteristics, granting very good results. Data related to Operating Load is also extremely important for OEMs, as related to the design of drawing and coating systems.

Beyond previous mechanical properties of TANROLL belt, the 2 rubber hardnesses 23° and 36° °ShA are the most important. Typically the concerned application, as well as the variation due to single users, needs the balanced compromise among the main physical-mechanical properties of the rubber.

In this view, the combination of hardness rate, abrasion resistance and tear resistance, places TANROLL belts among the best products in the world. This result was reached after studying and testing the belt with the most important OEMs and the produced compounds are perfectly matching OEMs' and Users' needs.

## Resistance to dyes and other products, including detergents.

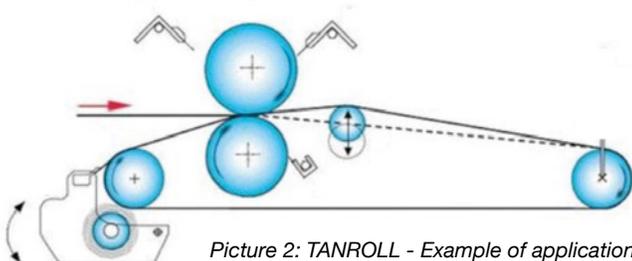
Hide coating requires several chemical products, i.e. dyes, solvents, oils and detergents for cleaning the machinery and the belt. Typically many of them are new or unknown and supposed to cause an earlier wear of the belt. There is no chance to follow any of the latest "chemical changes" of the End User, however it is possible, through laboratory tests on product, to provide indications on the related chemical resistance of TANROLL belt.

Typically

Oils may cause the softening of rubber and the increase in volume of the belt, while

Solvents dry the belt and – consequently – cause surface cracks; besides, they increase the hardness and decrease volume.

BeltTS srl Laboratories have tested TANROLL belts under certain chemical conditions and the below table is intended for OEMs and End Users. However, due to the many products, the completeness of the report is absolutely unlikely.



Picture 2: TANROLL - Example of application



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TANROLL BELTS OIL (*) & SOLVENT (**) RESISTANCE	
Chemical product	Rate
(**) Butyl acetate	G
(**) Ethyl acetate	G
(**) Acetone	G
(**) Butyl alcohol	G
(**) Ethyl alcohol	G
(**) Isopropyl alcohol	G
(**) Cyclohexanone	G
(**) Heptane	G
(**) Ethylene glycol	G
(**) Propane metoxide	G
(**) Methyl ketone	M-G
(**) Tolouene	F
(**) Trichloroethane	F
(*) Paraffinic oil	G
(*) Aromatic oil	M

Legenda: F = Fair M = Medium G = Good

Tab 2: TANROLL resistance to chemicals

Basing on Users' experience and practice, we register other qualities of TANROLL belts, i. e.:

- good resistance to hot temperatures, under normal operating conditions;
- very good ability in non-transferring undesired dyeing onto the semi-finished product ;
- easy centring ability on the machinery.

## STANDARD DIMENSION RANGES

Basically TANROLL belts have a standard range of dimension and they are valid for nearly all the main OEMs.

Inner length (mm)	Width (mm)
2540	2200
2540	1800
2280	3390
2280	1790
2160	1800
1800	2190
1800	1790

Tab 3

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