



## Technical Parameters

MECADRUM, as a leading producer of conveyor drums has developed a special software to calculate the effort supported by the drum to be able to optimize the design according to the drum's effort.

In order to make these calculations we need to know the technical characteristics of the conveyor, mentioned below.

### DRUM

Taking into account that there is not any existing norm for the calculation of drums, each conveyor's manufacturer has to determine the effort supported by the drum in order to determine the inner shaft diameter, the side plate's thickness, the tube thickness etc...

To calculate the effort supported by the drum, it is necessary to know the following characteristics of the conveyor in which the drum operates:

- The power of the conveyor (KW)
- The speed of the belt (m/s)
- The type of conveyor's tension (screw or counterweight)
- The moving direction of the belt (normal=pulled; reversed=pushed; or both directions)
- The type of drum (drive, tail, return, inflexion, tension, snub...)
- The diameter and the length of the tube
- The diameter of the shaft at the bearing's location (if is a new installation, Mecadrums can make this calculation)
- The diameter at the reducer's location for the drive drum
- The total length of the shaft
- Distance between centres of bearings
- Does the shaft need to be removable?

To simplify regrouping the above information, MECADRUM has gathered these data onto basic technical specification sheets:

Drive drum standardization sheet

Double drive drum standardization sheet

Return drum standardization sheet

Complete conveyor sheet

### LAGGING

If the drum has to be coated, we need to know the type of lagging:

Rubber or ceramics

For rubber lagging: smooth or with grooves.

Thickness, hardness

Cold or hot vulcanized



## **BEARING HOUSINGS**

If the drum is provided with mounted and greased bearing housings we need to know the type (cast iron SNL, steel type 444000 or other...)

We have developed a special type of bearing housings with reinforced tightness (triple tightness) for extreme conditions.

## **REMARKS**

When the speed of the conveyor varies, it is the lower speed which generates the higher effort. Please indicate the lowest speed and the maximum torque.

If the shaft is removable, MECADRUM recommends a shaft mounted on locking devices.

If the shaft is un-removable, MECADRUM will propose:

- Heat shrinking shaft for high stresses (Steel Industry standard)
- Welded shaft for lower stresses

*MECADRUM also manufactures a wide range of DRUMO® motors drums.*

## **REFERENCES**

MECADRUM is ISO 9001 certified (for both design and manufacturing) for more than 20 years.

MECADRUM manufacture several thousand drums per year.

The more resistant drum can support stress of several tonnes (for example: 150T for the blast furnace of ArcelorMittal).

MECADRUM has a long experience in the manufacture of heavy duty drums for the following sectors :

- Steel industry
- Mining
- Cement plants
- Automotive
- Harbour equipment
- Water treatment
- Quarries
- Sugar mills
- agri-food
- chemicals
- glass works

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