

Graphite skid bars

CP60-ENG rev. 3

General description

To ensure the best working conditions, carbon steel belts require graphite to be deposited on the inside of the belt at regular intervals. IPCO soft graphite skid bars allow a homogeneous and gradual deposit in a continuous, automatic way. There are several advantages to use soft graphite skid bars as belt supports:

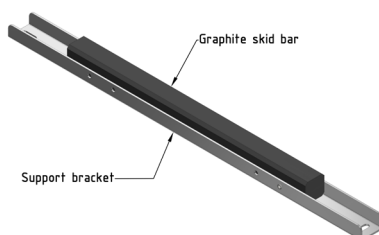
- No limitation on speed.
- Ideal for heavy loaded belts due to low friction.
- Can replace rollers on long ovens.
- Belt needs no lubrication before start-up or during operation.
- Can be used in conjunction with cast iron skid bars and help to eliminate slip-stick problems and reduce vibration.
- Reduces friction and increases belt life, which in turn reduces deformation problems.
- Helps to eliminate rust on underside of belt form
 - condensation from products
 - steam injection
 - cooling water tanks
 - water splashing from plant- cleaning
 - washing gear
 - humid conditions in the atmosphere
- The underside of the belt becomes very smooth and gives a semi non-stick surface; this helps ploughing off any spillage etc, on return strand and leads to a cleaner and more hygienic belt.

Scope of supply

Soft graphite skid bars are available for all standard belt widths up to 1 500 mm.



There is an option to get the support beam for the soft graphite skid bar from IPCO. The beam or bracket is available in four lengths for each standard belt width. The soft graphite skid bar is fixed to the bracket by two cylindrical spring pins.



The same bracket is used for cast iron skid bars supports (see Product Information sheet CP61-ENG).

Placing

The length of the soft graphite skid bar support should be slightly narrower than the belt, measured perpendicular to the running direction of the belt. The general rule is:

$$\text{Support length} = \text{Belt width} - 75 \text{ to } 100 \text{ mm}$$

The brackets have long holes in each end for mounting on a conveyor structure. For belt widths greater than 1 500 mm, more than one soft graphite skid bar is used.

The distance between the supports depends on the permissible belt sag and the max allowed pressure on the soft graphite skid bar. Normally the distance is about 0,8 up to 1,0 m.

The surface pressure must not exceed 0,5 N/cm² (0,005 MPa)

More mounting hints to consider:

- Skids should be free to expand laterally.
- Graphite should be supported and not used as a structural member.
- On long ovens the last one or two skids should be of cast iron to act as safety scraper, to protect drive drum friction.
- Top strand rollers not to be used in conjunction with graphite skids, due to low friction contact.
- Graphite will oxidize rapidly at high temperature. As an example, at 600° C is the weight loss about 6% in 2,5 h. Max operation temperature is 370° C.
- When replacing graphite skid bars make sure that there are no abrasive particles on belt backside and on contact surface of the graphite skid.



The picture shows how a belt surface looks like when using IPCO cast iron skid bars and soft graphite skid bars.

Hard graphite skid bars

Another harder type of graphite skid bar having limited lubricating effect, but instead it is stable at high temperatures, can be used in applications where the lubricating type of graphite would be worn down and maybe even “contaminate” the product on the belt, e.g. in a baking process using a perforated belt, or at high temperatures where the lubricating type of graphite bars would rapidly oxidize.

This type of hard graphite can also be used as a substitute for cast iron skid bars.

The design of this hard graphite bars is the same as the soft graphite skid bar and the same support bracket can be used.

Available sizes of soft and hard graphite bars and brackets

Belt width, mm	Soft or hard graphite skid bars on bracket, mm	Bracket mounting holes c-c distance, mm	Weight skid bar, kg	Weight bracket, kg
500	400	500, 600, 700, 800	1,3	1,1
600	500	600, 700, 800, 1 000	1,6	1,3
800	700	800, 900, 1 000, 1 100	2,3	1,7
1000	900	1 000, 1 100, 1 200, 1 300	2,9	2,9
1200	1100	1 200, 1 300, 1 400, 1 500	3,6	3,5
1500	1400	1 500, 1 600, 1 700, 1 800	4,6	5,5

