

# Plastic Impregnated Rope

Plastic impregnated ropes are recommended for severe crane applications where the rope is exposed to high levels of wear and fatigue and particularly where there is a possibility that abrasive dust, dirt or corrosive material might penetrate the rope during normal operation.



Plastic impregnated ropes have been successfully used on coal and ore unloaders and also in piling operations.

Brunton Shaw UK are able to offer most of the rope constructions shown in this catalogue as Plastic Impregnated Rope (PIR).



The steel wire rope is impregnated by a special process whereby the individual strand gaps within the rope are filled with a sealing thermoplastic material forming a protective layer between the individual strands and around the core of the rope.

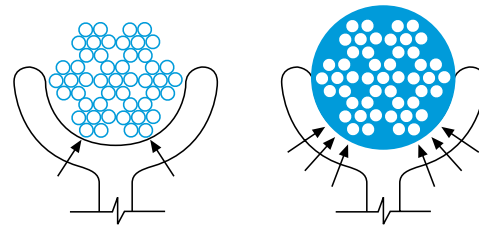
The end result is a balanced, sealed – lubricated wire rope that provides exceptional performance and extended service life when working under severe operating conditions.

**Improved wear resistance** – The plastic impregnation acts as a shield to prevent the ingress of solid abrasives and, combined with the locked-in internal lubricant, reduces weakness due to internal deterioration.

**Improved fatigue resistance** – The plastic filling reduces wire contact bending stresses thereby improving load transfer and sharing between wires and strands. This results in continued flexibility and a considerable increase in the working life of the rope.

**PIR for safety** – High visibility bright orange plastic is used in the manufacture of PIR wire ropes. The resultant rope is clean as well as being easy and safe to handle.

**Reduced drum and sheave wear** – The plastic filling process results in a rope with a completely full cross section. A full pitch circle is presented to those parts of the machine which both cause wear to the rope and are worn by the rope.



Contact of conventional wire rope with the winding drum and sheaves inevitably leads to high pressure point contact where individual wires meet the contour of the groove. With PIR rope the load is spread and wear on both the rope and drum are minimised.

**Less maintenance – lower cost** – The increased lifetime associated with PIR rope results in decreased downtime because of fewer wire rope changes and less maintenance of drums and sheaves due to the polishing effect of the PIR fully circular cross section.