

Manufacturing Process, BX Armouring Machine

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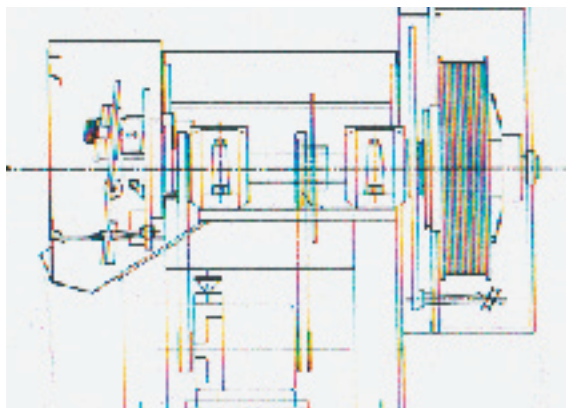
This machine is designed for the continuous application of interlock armour protection over cables with a multitude of characteristics. The interlock armour manufacturing capabilities include the production of round armour products of both ferrous and non-ferrous materials in a variety of profiles (square, round and flat). Galvanized steel and aluminum strip material represent the bulk of production, however, other material is also used (i.e. stainless steel).

The “Q” or square profile has a positive lock and is known for its above average flexibility, high diameter build-up, high crush resistance and high armour tensile strength.



The “S” profile is typically used for low, medium and high voltage power cables. This profile has positive lock with low convolution count and provides the optimum compromise between productivity, flexibility, crush resistance and tensile strength.

The “Z” profile is almost used exclusively with steel strip for submersible pump cable applications. This profile provides physical protection with a minimal increase in diameter and is known for its high flexibility, below average crush resistance and minimal armour tensile strength.



The main shaft of the armouring machine is supported on two large bearing assemblies and is rotated by the main drive motor through a timing belt. Coils of strip are mounted on an independent coil mounting head, which is supported by the main shaft on a large sealed bearing assembly. Armouring machines are supplied as either front or rear coil loading. A braking mechanism provides tension control for the “de-reeling” of coiled strip material. The front of the main shaft supports the armouring head on which the printing rollers, pre-form feed rollers, guide shoes and pigtails are mounted.

Manufacturing Process, BX Armouring Machine *continued*

The armouring head itself is mounted at a fixed pitch of approximately 8° to the centre line of the cable as it passes through the bore of the machine. A secondary shaft runs within the main shaft and drives the forming rollers by an independent drive through a timing belt and differential unit. The profile of the strip is obtained through the pressure adjustable pre-form feed rollers, which are also used to feed the strip into the pigtail unit. As the cable core is pulled through the machine, the formed strip passes through the pigtail and is wrapped over the cable core and onto itself by the rotating motion of the armouring head. The leading edge of the new wrap of formed strip “locks” with the trailing edge of that from the previous wrap, thus providing the continuous interlock armour protection for cables.

