



CWRM Holdings

“CARING FOR OUR ENVIRONMENT”



THIN FILM WIRE ROPE LUBRICATION PHILOSOPHY

INTRODUCTION

Since 1993, the *CWRM Group* has been actively engaged in developing a *Wire Rope Maintenance Programme* using a thin film wire rope lubricating oil aimed specifically at improving steel wire rope life and creating a substantially cleaner and safer working environment.

Coupling the *Thin Film Lubrication Philosophy* with *Conscientious Maintenance Management*, has shown the Programme to be cost effective by generating short and long term savings in rope replacement and associated equipment costs.

THE THIN FILM LUBRICATION PHILOSOPHY

Thin film lubrication can only be achieved when using high quality lubricating oils that have specifically been formulated to possess outstanding water resistance, have an above average high film strength and that can handle extreme pressures typical to those experienced in heavy duty ropes.

These lubricating oils should ideally be manufactured from high quality base stocks and unique additives that can prevent corrosion and have the ability to penetrate to the core of the wire rope through capillary action.

Some of the Benefits of Thin Film Lubrication on wire ropes are: -

- The *ropes remain clean*. The lubricant is not tacky and therefore does not attract dust, backfill, etc.
- In spite of the oil not being tacky, it has a *strong affinity to metals* and will *displace water*.
- Due to the thin film, measured in microns, water cannot be trapped between the lubricant and the steel wires of the rope as is the case for a standard rope dressings or grease, thereby minimising or even *preventing corrosion*.
- Being an oil, *water is repelled* from the ropes.
- The thin film of the oil practically eliminates *wash-off*.
- *Broken wires can be spotted easily*.
- *Fretting corrosion*, a major cause of broken wires, can be reduced substantially.
- Regular application ensures that *drums and sheaves* are protected from wear.
- The immediate *environment* in and around the winch or crane remains *completely clean thereby improving safety* and protecting the environment substantially.

APPLICATION LOGISTICS

Depending on environmental circumstances, either weather conditions, harbour, mining, etc. or immersed in water, such as anchor ropes, certain crane ropes, etc. the frequency of application will vary. First, the lubricating oil is applied to the complete rope at the prescribed rate, which in time will penetrate into the rope. With use, some of the lubricant will be absorbed into the rope and also wash off, especially if immersed. To maximise protection, the ropes must be re-lubricated regularly and if immersed in water, should be lubricated while hoisting to prevent premature corrosion in the presence of oxygen.

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