

# STANDARD PLASTICS GROUP

## ■ POLY-VINYL-CHLORIDE (PVC)

is the most commonly used plastic for mechanical cable coatings, especially where cost is a factor. Vinyl is flexible, has good weathering resistance and has excellent resistance to the ultra violet rays of the sun which degrades many plastics. The operating temperature range of vinyl is between  $-30^{\circ}\text{F}$  ( $-35^{\circ}\text{C}$ ) and  $+180^{\circ}\text{F}$  ( $+80^{\circ}\text{C}$ ). Vinyl is supplied in a wide range of hardnesses or durometers. It is available from very hard and stiff to soft and spongy. AS A STANDARD WE HAVE SELECTED 90 DUROMETER (shore "A"). This durometer is suitable for the majority of applications, however, if your particular application requires low or high temperature environment, unusual abrasion resistance or special atmosphere or environmental problems, we will "tailor" a cable and plastic coating to your measurements.

Vinyl is easily colored in a wide range of the spectrum from bright vivid colors to soft pastels, from metal flake to international orange. Again, we will "tailor" a color to fit your needs.

We can supply a vinyl coating to meet MIL-I-631, Type F, Form U, Grade A, Class II, Category 1.

## ■ POLYETHYLENE (PE)

is primarily an electrical insulation plastic. Because of its wide acceptance and large production it is one of the least expensive plastics. It is quite flexible in thin wall thickness but stiff in heavy wall thickness. It does not have good abrasion resistance; as a result it is rarely used as the outside jacket of a mechanical cable. We use it primarily as an insulation material in electromechanical cables. The operating temperature range for polyethylene is between  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) and  $+200^{\circ}\text{F}$  ( $+95^{\circ}\text{C}$ ), it has good resistance to chemicals and good weathering properties. Polyethylene's natural color is a milky-white translucent. Polyethylene meets MIL-I-631, Type A, Form U, Grade A, Class II.

## ■ POLYPROPYLENE (PP)

has found several basic applications in the mechanical cable industry. It has good abrasion resistance, good chemical resistance, and is easy to process. It is light in weight and reasonably priced. Polypropylene has a narrow temperature range, however, and is not recommended for cold applications below  $0^{\circ}\text{F}$  ( $-18^{\circ}\text{C}$ ) nor applications above  $200^{\circ}\text{F}$  ( $95^{\circ}\text{C}$ ). Its weatherability is only fair because it is degraded by the ultraviolet rays of the sun.

# LOLON<sup>®</sup> ENGINEERING PLASTICS GROUP

## ■ LOLON<sup>®</sup> "A"

Its flexibility compares with vinyl, but has much better fatigue and abrasion resistance. LOLON<sup>®</sup> "A" holds up well in temperatures between  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) to  $+200^{\circ}\text{F}$  ( $+95^{\circ}\text{C}$ ) and offers good chemical resistance. This is an excellent choice when flexibility and toughness are required. Natural color is clear (transparent) with a slightly green tint. LOLON<sup>®</sup> "A" will meet Military Specifications: MIL-P-22096, Type III, and MIL-W-29020.

## ■ LOLON<sup>®</sup> "B"

One of the first of Loos & Company's special formulations of plastic coating for mechanical cables. Compared with LOLON<sup>®</sup> "A" it is slightly less flexible, however, LOLON<sup>®</sup> "B" offers superior abrasion and fatigue resistance. It possesses good chemical resistance and operates satisfactorily in a temperature range between  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) and  $+200^{\circ}\text{F}$  ( $+95^{\circ}\text{C}$ ). LOLON<sup>®</sup> "B" is light tan in color, slightly transparent.

## ■ LOLON<sup>®</sup> "E"

Slightly less flexible than LOLON<sup>®</sup> "B" this formulation has high impact resistance. A very tough plastic, good abrasion resistance, operates satisfactorily in a temperature range between  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) and  $+200^{\circ}\text{F}$  ( $+95^{\circ}\text{C}$ ). Transparent or clear in color with good chemical resistance LOLON<sup>®</sup> "E" will meet Military Specification MIL-P-220, Type IV.

## ■ LOLON<sup>®</sup> "F"

A very broad range of applications are served by LOLON<sup>®</sup> "F" Flexibility is exceptional, chemical resistance is good. Its superior quality is its ability to operate in an extremely wide temperature range, from  $-65^{\circ}\text{F}$  ( $-54^{\circ}\text{C}$ ) to  $+230^{\circ}\text{F}$  ( $+110^{\circ}\text{C}$ ). A desired plastic for cable coatings where the cable operates over pulleys, especially in severe cold. Natural color is a transparent or clear. LOLON<sup>®</sup> "F" will meet Military Specification MIL-W-83420.

## ■ LOLON<sup>®</sup> "G"

Like LOLON<sup>®</sup> "B", "E", and "F", LOLON<sup>®</sup> "G" is an exceptionally tough plastic with abrasion resistance, good bearing characteristics, light in weight and good chemical resistance. Its real claim to fame is its ability to withstand higher temperatures and will operate satisfactorily between  $-20^{\circ}\text{F}$  ( $-29^{\circ}\text{C}$ ) and  $+250^{\circ}\text{F}$  ( $+120^{\circ}\text{C}$ ). LOLON<sup>®</sup> "G" also has heat and light stabilizers built in which improves its weatherability. Natural color is black. This plastic meets the following Military Specifications: MIL-C-23812, MIL-W-21632, MIL-C-15452, and MIL-C-2193

## ■ LOLON<sup>®</sup> "H"

The outstanding feature of LOLON<sup>®</sup> "H" is its toughness. It is a natural bearing material, and when applied on a steel cable the result is a flexible bearing surface, ideal for flexible pins such as used in belting. Temperature range allows safe operations as low as  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) and as high as  $+250^{\circ}\text{F}$  ( $+120^{\circ}\text{C}$ ) with a heat stabilized formulation. Natural color is a milky off-white. This is a rather stiff, rigid plastic;

chemical resistance is good. LOLON<sup>®</sup> "H" will meet Military Specification MIL-M-20693, Type 1.

## ■ LOLON<sup>®</sup> "I"

Similar to LOLON<sup>®</sup> "F" except has slightly better heat stability. Will operate in temperatures up to  $+250^{\circ}\text{F}$  ( $+120^{\circ}\text{C}$ ). Severe cold resistance is almost as good as LOLON<sup>®</sup> "F". Will operate at  $-65^{\circ}\text{F}$  ( $-54^{\circ}\text{C}$ ). Flexibility not quite as good as LOLON<sup>®</sup> "F". Natural color is transparent or clear. Chemical resistance is good.

## ■ LOLON<sup>®</sup> "J"

Except for a few very special applications, this formulation has been gradually replaced by LOLON<sup>®</sup> "B". LOLON<sup>®</sup> "B" is less expensive and yet more flexible, tougher and generally is superior to LOLON<sup>®</sup> "J". We continue to list LOLON<sup>®</sup> "J" only because it is specified occasionally. LOLON<sup>®</sup> "J" will meet military specification MIL-M-22096, Type II.

## ■ LOLON<sup>®</sup> "K"

A very tough "rubbery" plastic with an extremely wide operating temperature ranging from  $-60^{\circ}\text{F}$  ( $-50^{\circ}\text{C}$ ) to  $+300^{\circ}\text{F}$  ( $+160^{\circ}\text{C}$ ). LOLON<sup>®</sup> "K" can be colored in a wide range of soft colors, has excellent electrical properties, good flexibility, very good weatherability and aging resistance, light in weight, is a good "traction" material and is low in cost. Natural color is a slight off-white matte finish.

## ■ LOLON<sup>®</sup> "L"

LOLON<sup>®</sup> "L" can be best described as a "super-plastic". It can operate within a temperature range up to  $+300^{\circ}\text{F}$  ( $+150^{\circ}\text{C}$ ) and has operated for intermittent periods up to  $+400^{\circ}\text{F}$  ( $+200^{\circ}\text{C}$ ). On the low side it will operate at  $-65^{\circ}\text{F}$  ( $-54^{\circ}\text{C}$ ) LOLON<sup>®</sup> "L" is medium flexible but has excellent flex-life, good impact strength and good abrasion resistance. It is weather resistant, is inert to most chemicals and solvents and has no water absorption weaknesses like so many nylon formulations have. It is slightly heavier than most plastics and is more expensive than most plastics, however, this is a super-plastic that will satisfy the most critical applications and its added expense can usually be justified by its longer life and wide environmental resistance. LOLON<sup>®</sup> "L" will meet Military Specification MIL-W-81822/13 and MIL-W-22759/16/17/18 and /19.

## ■ LOLON<sup>®</sup> "M"

Another super-plastic. In addition to its remarkable flex-life, LOLON<sup>®</sup> "M" has excellent abrasion resistance, is tough to cut, will operate in a temperature range between  $-60^{\circ}\text{F}$  ( $-54^{\circ}\text{C}$ ) and  $+300^{\circ}\text{F}$  ( $+150^{\circ}\text{C}$ ). It is resistant to many chemicals and a broad range of oils and solvents. It is mildew and fungus resistant, has good electrical properties for low voltage applications, is available in colors. Its natural color is a "Creamy-tan"; with ultraviolet inhibitors added its natural color is black. From a cost standpoint it is slightly more expensive but its long life in applications running over pulleys offsets this minor disadvantage.

ISO 9002 / QS-9000 CERTIFIED

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