|  | Process Optimization |  |  |
| :---: | :---: | :---: | :---: |
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## Supplier:

Arya Sasol Polymer Company
Pars special Economic Energy zone

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## Typical Data

| Properties | Value | unit | Test method |
| :--- | :---: | :---: | :---: |
| Physical Properties |  |  |  |
| MFI (190 ${ }^{0} \mathrm{C} / 2.16 \mathrm{Kg}$ ) | 1.9 | $\mathrm{dg} / \mathrm{min}$ | ISO 1133 |
| Density | 921 | $\mathrm{Kg} / \mathrm{m} 3$ | ISO 1183 (A) |
| Mechanical properties |  |  |  |
| Impact strength | 26 | $\mathrm{KJ} / \mathrm{m}$ | ASTM D 4272 |
| Tear strength (TD) | 25 | $\mathrm{KN} / \mathrm{m}$ | ISO 6383-2 |
| Tear Strength (MD) | 60 | $\mathrm{KN} / \mathrm{m}$ | ISO 6383-2 |
| Yield stress (TD) | 11 | MPa | ISO 527 |
| Yield stress (MD) | 13 | MPa | ISO 527 |
| Tensile stress at break (TD) | 20 | MPa | ISO 527 |
| Tensile stress at break (MD) | 35 | MPa | ISO 527 |
| Strain at Break (TD) | $>500$ | $\%$ | ISO 527 |
| Strain at Break (MD) | $>150$ | $\%$ | ISO 527 |
| Modulus of Elasticity (TD) | 200 | MPa | ISO 527 |
| Modulus of Elasticity (MD) | 190 | MPa | ISO 527 |
| Coefficient of friction | $>1$ |  | ASTM D 1894 |
| Blocking | 20 | g | SABTEC method |
| Re-blocking | 100 | g | SABTEC method |
| Optical properties |  |  |  |
| Haze | 9 | $\%$ | ASTM D 1003A |
| Gloss (45 ${ }^{\circ}$ ) |  |  | ASTM D 2457 |
| Clarity |  |  |  |
| Additive : Antioxidant | 26 | mV |  |

Film properties have been measured at $25 \mu \mathrm{~m}$ with a BUR of 3 .
Application
LTM 2119X is suitable for general purpose film and for lamination
General information
LTM 2119 X has been manufactured using SABTEC licensed technology.

Note: this information is based on our current knowledge and experience .in view of many factors that may affect processing and application, this data does not relive processors from the responsibility of carrying out their own tests and experiments, neither does it imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

|  | Process Optimization |  |  |
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## Processing

LTM 2119X is a general purpose grade without additives. This grade offers high output and excellent drawdown.

## Packaging

Supplied in pellet form and can be packaged in 25 kg bags, 1 ton semi bulk or 17 ton bulk.

## Food packaging

The above mentioned grade meets the relevant requirements of plastics directive 2002/72/EC (06-08-2002) and its amendments till directive 2008/39EC relating to plastic materials and articles intended to come into contact with foodstuffs.

## Pharmaceutical Application

The above mentioned grade meets the requirements of the European pharmacopeia version 6 section 3.1 .5 for pharmaceutical application..

## Conveying

Conveying equipment should be designed prevent accumulation of fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used:

1. be equipped with adequate filters
2. is operated and maintained in such a manner to ensure no leaks develop
3. that adequate grounding exists at all times

We further recommended that good housekeeping will practiced throughout the facility

## Storage

As ultraviolet light may cause a change in the material, all resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the ambient temperature should not exceed 500 C . It is also advisable to process polyethylene resins (in pelletized or powder from) within 6 months after delivery, this because also excessive aging of polyethylene can lead to a deterioration in quality

## Handling

Minimal protection to prevent possible mechanical or thermal injury to the eyes. Fabrication areas should be ventilated to carry away fumes or vapors.

## Combustibility

Polyethylene resins will burn when supplied adequate heat and oxygen. They should be handled and stored away from contact with direct flames and/or other ignition sources in burning; polyethylene resins contribute high heat and may generate a dense black smoke. Fires can be extinguished by conventional means with water and mist preferred. In enclosed areas, fire fighters should be provided with self contained breathing apparatus.

