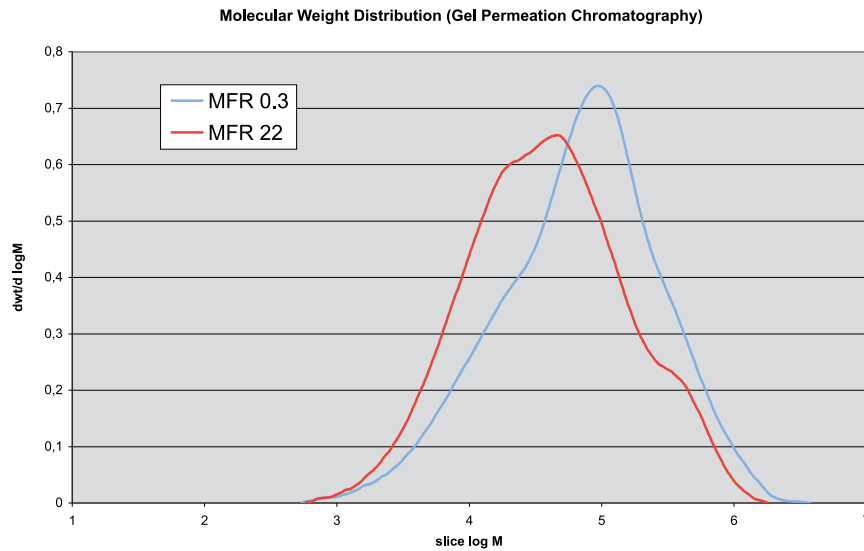
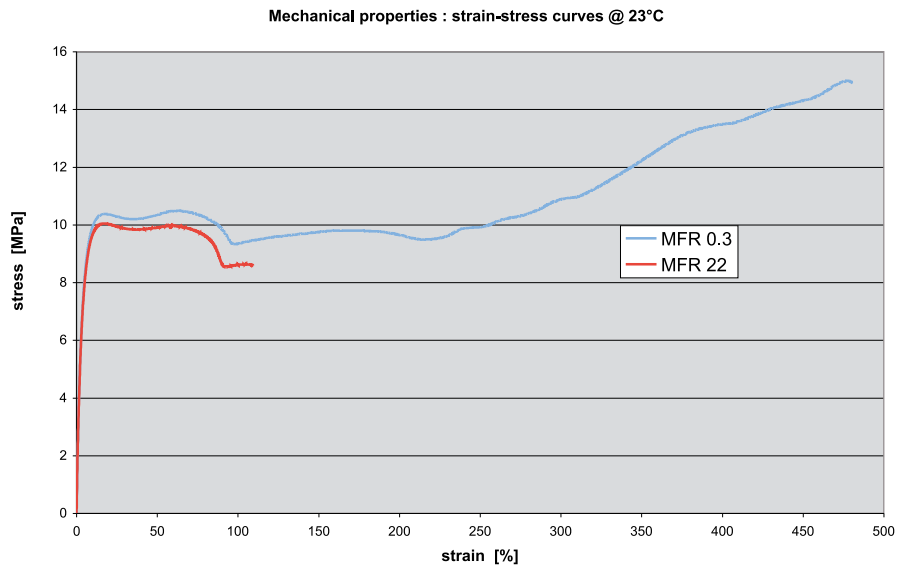
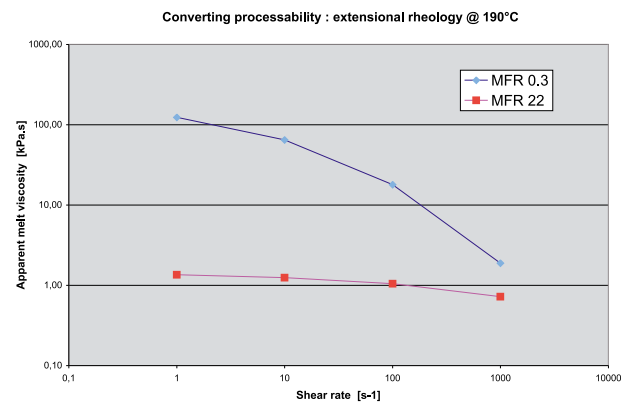
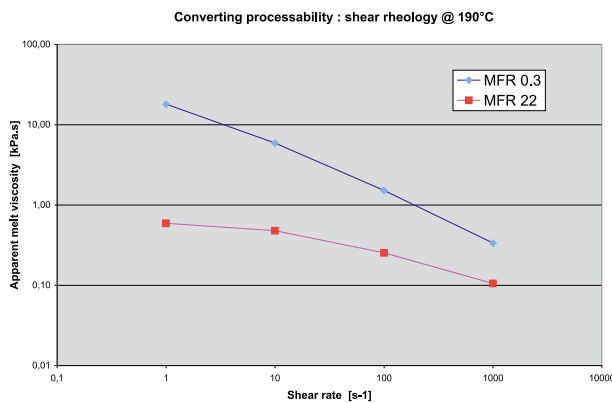




From molecular architecture ...



... Through converting processability ...



... To mechanical (end-use) properties



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INEOS Polyolefins

Eltex® MED LDPE for Medical and Pharmaceutical packaging

INEOS Polyolefins is a market leading polyolefins producer, operating from a uniquely broad technology base, with over 3 millions tonnes per annum of production capacity.

With a highly experienced sales and technical service team as well as extensive Research and Development facilities, we are committed to develop and manufacture specific product solutions to high demanding markets.

LDPE for Medical / Pharma packaging solutions

In a market requiring long and complex homologation protocols, LDPE has a proven track record in answering the needs of high-value packaging applications for medical & pharmaceutical products:

- Additive-free resins guaranteeing optimized resin purity and quality consistency
- Chemical inertia, compliance to regulations
- Suitable for many converting processes, offering fast production cycles and design versatility
- Preserving the quality of the most sensitive products e.g. ophthalmic solutions ; ability to be sterilized including autoclaving
- Convenience in use and exceeding customers' expectations: process and application flexibility, appealing optics, easy squeeze



Offering much more than a product, Offering you solutions !

INEOS Polyolefins

Eltex[®] MED offer

Medical & Pharmaceutical market requirements are met by our Eltex[®] MED LDPE grades manufactured at our Norwegian facility in Bamble, certified ISO 9001 & 14001, on a totally additive-free production line and dedicated logistics/packaging area, enabling efficient risk management by minimising and eliminating the occurrence of cross-contamination.



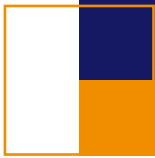
Our Eltex[®] MED LDPE grades are offered with the following support and services:

Regulatory documentation:

- Compliance to European pharmacopeia 3.1.3 and 3.1.4
- Compliance to USP class VI
- DMF nr. 21252 – Letter of Authorization available upon request
- Available reports for complete EuP (monograph 3.1.3) and USP (Class VI – § 88) testing
- Compliance to food-contact directives (2002/72/EC and amendments; FDA 21CFR 177.1520)
- Manufacturing is compliant with GMP (Good Manufacturing Practices) by application of well established HACCP principles (Hazard Analyses by Critical Control Points).

Additional services:

- Fully dedicated grades to medical / pharma markets
- 2 years continuity of supply
- 2 years guarantee of no change of formulation (unless forced by applicable regulations) ; 2 years pre-notice of change
- FTIR spectrum available
- Dedicated sales and technical service support
- Assigned production plant : back-up solutions under deployment (enhanced security of supply) ; plant audits – upon request
- Specific production & logistics procedures implemented to prevent cross-contaminations



Eltex® MED - LDPE product range

Eltex® MED LDPE resins benefit from our leading edge autoclave technology. Their rheology has been especially designed for matching the requirements of various converting processes.

MFR (Melt Flow Rate) 0.3g/10min

Eltex® MED	MFR g/10min	Density kg/m ³	Main applications /characteristics
PH22D630	0.30	922	- BFS (bottles & ampoules) - Film (bags & pouches) - Tubes (spray actuators) Outstanding flexibility
PH27D630	0.30	927	- BFS (bottles & ampoules) Steam autoclave treatment / up to 110°C
PH30D630	0.30	930	- BFS (bottles & ampoules) Steam autoclave treatment / slightly above 110°C

- BFS process (Blow-Fill-Seal): extensively used in primary packaging of pharmaceutical liquids (intravenous fluid bottles and single dose ampoules) for the treatment of respiratory and ophthalmic diseases.



by courtesy of Rommelag

- Blown Film extrusion



by courtesy of Rommelag

- Tube extrusion



- Suitable for sterilization treatments by Ethylene Oxide and gamma radiation (up to 35 KGy)





MFR (Melt Flow Rate) 22 g/10min

Eltex® MED	MFR g/10min	density kg/m ³	Main applications
PH23T630	22	923	- Injection moulding of caps & closures, needle covers

- Injection moulding
- Outstanding processability
- Suitable for sterilization treatments by Ethylene Oxide and gamma radiation (up to 35 KGy)



Eltex® MED - LDPE resin characteristics

The deep expertise in structure / property relationships of our R&D laboratories allows the development of fit-to-purpose resins.

By adjusted macromolecular architectures, Eltex® MED LDPE resins are designed to feature targeted molten-state rheological behaviours as well as solid-state mechanical properties.

Eltex® MED	MFR g/10min.	Density kg/m ³	Melting T°(°C)	Crystallization T°(°C)	Elastic Modulus MPa	Strength @ Yield MPa	Ultimate elongation %
PH22D630	0.3	922	112	98	230	10	460
PH23T630	22	923	109	93	220	10	90
PH27D630	0.3	927	116	102	330	13	300
PH30D630	0.3	930	117	103	350	13	420