



Producer: INEOS Olefins & Polymers Europe / United Kingdom

## LL0209KJ

### Description:

LLDPE Film application.

**LL0209KJ** is a linear low density polyethylene copolymers containing butene-1 (C4) as the comonomer. In lean blends, it offers the following advantages compared to LDPE neat:

- Greater drawdown
- Improved hot-tack and lower seal shrinkage
- Better tear resistance
- Higher tensile stress and elongation at break

**LL0209KJ** offers high slip film with easy opening properties when used pure in the thickness range 35 - 100 µm. Addition of other polymers, masterbatches and pigments, or use of other thicknesses may alter film slip and antiblock performance.

If corona treatment is necessary, the level should normally be in the range 38-48 mN/m.

### Applications:

**LL0209KJ** are suitable for general purpose films, neat or in blends with LDPE and other ethylene polymers. Lean blend applications include sacks of all types, FFS and agricultural film.

PROPERTIES	TEST METHOD	VALUE	UNIT
<b>Physical</b>			
Melt flow rate	ISO 1133 Condition 4	0.9	g/10 min
Density (conditioning ISO 1872/1)	ISO 1183 Method D	921	kg/m <sup>3</sup>
Vicat softening temperature	ISO 306 Method A	100	°C
Slip (erucamide)	INEOS Method	1175	ppm
Antiblock (silica)	INEOS Method	1425	ppm
Additives: antioxidants			
<b>Film*</b>			
Dart drop impact	Method A ASTM D 1709	140	g
Tensile stress @ yield	MD/TD ISO 0527	10/11	Mpa
Tensile stress @ break	MD/TD ISO 0527	41/32	Mpa
Elongation @ break	MD/TD ISO 1184	620/840	%
1% Secant modulus	MD/TD ISO 1184	195/205	Mpa
Elmendorf tear streng	MD/TD ASTM D 1922	145/370	g/25 µm
Coefficient of friction	ASTM D 1894	0.13	-
Haze	ASTM D 1003	12	%
Gloss (45°C)	ASTM D 2457	50	%

- Data should not be used for specification work

- 38 µm film, 2.5:1 blow-up ratio, 225°C melt temperature - MD = machine direction TD = transverse direction



**Extrusion conditions:**

**LL0209KJ** in lean blends can be processed on most standard extrusion equipment. Optimisation of conditions may be necessary, depending on the exact blend used. **LL0209KJ** rich film formulations is often processed on modified LDPE machinery, but for the best performance the use of purposely designed LLDPE machinery is recommended. Particular attention should be paid to maintaining a low melt temperature (<240°C), and an efficient bubble cooling system should be employed. The recommended melt temperature range is 180 - 225°C.

**Storage:**

**LL0209KJ** should be stored in a dry and dust free environment at temperatures below 50°C. Exposure to direct sunlight should be avoided, as this may lead to product deterioration.

**Regulatory Information:**

The product and uses described herein may require global product registrations and notifications for chemical inventory listings, or for use in food contact or medical devices. Unless specifically indicated, the products mentioned herein are not suitable for applications in the medical or pharmaceutical sector.