UBE NYLON

Technical data

1022B10

UBE INDUSTRIES , LTD
Polyamide Group
Polymers Development Center

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Technical information

UBE NYLON 1022B10 is basic middle viscosity grade.
It contains some lubricant which is originated from vegetable oil.

1. Features

Features of UBE NYLON 1022B10

1) Best for middle layer usage
2) Good transparency
3) Good processability

2. Basic properties

Table 1 Basic properties of 1022B10

Grade		1022B10
Melting point	(℃)	215 - 225
Relative Viscosity *	(-)	3.26 - 3.46
Extractable content	(%)	Max 1.0%
Moisture content	(%)	Max 0.10%

* 96% H_2SO_4 : Conc. 1.0%

3. Flow property

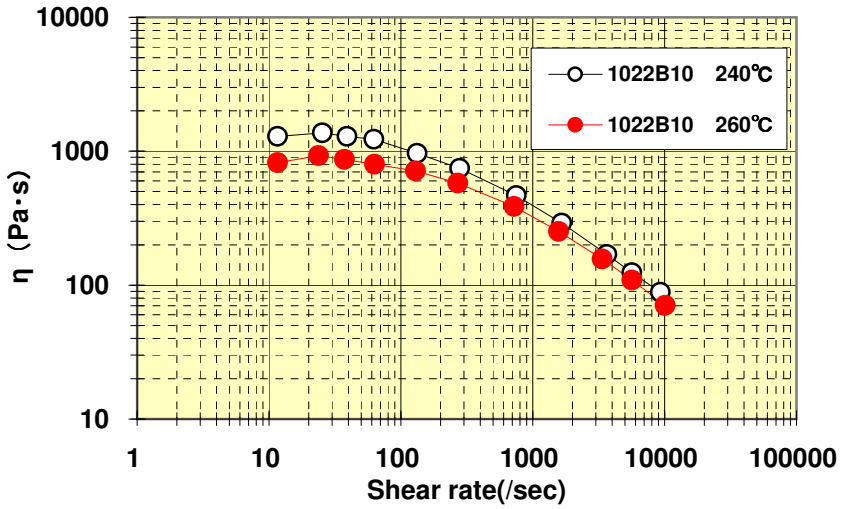

Fig.1 Flow property of UBE NYLON 1022B10

Technical information

4. Film properties

4-1 Properties of mono-layer cast film

Table 2 Processing condition of T-die cast film (mono-layer)

Extruder		Plabor ϕ40mm L/D = 28 , C.R. = 3.3
Die width	(mm)	350
Lip clearance	(mm)	0.4
Chill roll temp.	(℃)	30
Extrusion Temperature (℃)	C1	200
	C2	220
	C3	240
	C4	260
	AD	260
	D	260

Table 3 Film properties of T-Die cast un-oriented film (50 μm mono-layer)

Item	Unit	Method	1022B10
Tensile strength at yield	MPa	ASTM D-882	30
Tensile strength at break	MPa	ASTM D-882	123
Tensile elongation at break	%	ASTM D-882	560
Tensile modulus	MPa	ASTM D-882	710
Haze	%	ASTM D-1003	0.2
Gloss	%	ASTM D-523	155
Wetting tension	mN/m	JIS K7100	38

4.2 Properties of oriented film

Table 4 Orientation condition

Orientation machine		Iwamoto-seisakusho BIX-703 (Batch type laboratory orientation machine)
Thickness of un-oriented film		100 μm
Orientation		Simultaneous
Stretching temp.	(℃)	80
Stretching ratio	(times)	2.6 x 2.6
Stretching speed	(mm/sec)	110
Heat setting temp.	(℃)	200
Heat setting time	(min)	1

Table 5 Physical properties of T-Die cast oriented film (15μm mono-layer)

Item	Unit	Method	1022B10
Tensile strength at break	MPa	ASTM D-882	170
Tensile elongation at break	%	ASTM D-882	126
Tensile modulus	MPa	ASTM D-882	1540
Haze	%	ASTM D-1003	0.2
Gloss	%	ASTM D-523	160