

## UBE NYLON 1022FDX04

### Technical Product Information: CAST – PA monolayer film properties

UBE NYLON 1022FDX04 is a medium viscosity Polyamide 6 homopolymer modified with anti-blocking agent. The grade is especially suitable for BOPA and as outer layer for a wide range of applications. This material has the following features:

- Good processability
- Good mechanical properties
- Good heat resistance
- Excellent slip properties

Basic Properties <sup>(1)</sup>	Method	Unit	Value
<b>Polymer</b>	-	-	PA6
<b>Melting Point</b>	ISO 11357	°C	220
<b>Relative Viscosity (96% H<sub>2</sub>SO<sub>4</sub>)</b>	JIS K6810	-	3,37
<b>Density</b>	DIN 53479	g/cm <sup>3</sup>	1,14

Mechanical Properties <sup>(2)</sup>	Method	Unit	Value
<b>Tensile strength at yield</b>	ISO 527-3	MPa	32 - 36
<b>Tensile strength at break</b>		MPa	100 - 120
<b>Tensile elongation at break</b>		%	400 - 420
<b>Tensile modulus</b>		MPa	650 - 750
<b>Tear resistance</b>	ASTM D 1922	N	0,8 - 1,0
<b>Puncture energy</b>	JAS P-1019	mJ	28 - 30
<b>Puncture deformation</b>		mm	8,0 - 9,0
<b>Spencer impact resistance</b>	ASTM D 3420	mJ	700 - 800
<b>Flex crack (23°C, 1000 cycles / 5°C, 100 cycles)</b>	Mil B-131C	Holes/0,04m <sup>2</sup>	< 50 / < 10

Optical Properties <sup>(2)</sup>	Method	Unit	Value
<b>Haze</b>	ASTM D 1003	%	2 - 3
<b>Gloss</b>	ASTM D 523	%	125 - 145

Gas Barrier <sup>(2)</sup>	Method	Unit	Value
<b>Oxygen (T=23°C, RH=0%)</b>	ASTM D 3985	ml/m <sup>2</sup> .day	31 - 33
<b>Water Vapour (T=40°C, RH=90%)</b>	JIS Z-0208	g/m <sup>2</sup> .day	160 - 180



Slip Properties <sup>(2)</sup>	Method	Unit	Value
Coefficient of friction (static)	ASTM D 1894	-	0,34 - 0,38
Coefficient of friction (dynamic)		-	0,34 - 0,38

Regulation	Method	Unit	Value
FDA / EC	-	-	I&D / I&D

I: Approved for indirect food contact D: Approved for direct food contact

(1) Measured on base resin

(2) All tests carried out with a monolayer cast line, Die width = 350 mm (Coat hanger type)

Structure: PA monolayer

Layer thickness distribution: PA = 50 µm

Cooling conditions: Chiller roll temperature = 20 °C

Sample conditioning and testing conditions: T = 23°C, RH =50%

## Processing conditions

	Extruder					Adaptor	Die
	Hopper	Zone 1	Zone 2	Zone 3	Zone 4		
Temperature (°C)	40 - 120	200 - 210	240 - 250	250 - 260	245 - 255	250 - 260	250 - 260

## Drying conditions

UBE NYLON is supplied dry (moisture content < 0,1%) and packed in high barrier films. However, as polyamide is a hygroscopic material, the user should take a special care of the possible moisture absorption once the bag or liner box has been opened. In case of moisture absorption, the material should be dried with dehumidified air at 80°C for more than 4 hours.

## Storage

Well-sealed packages could be stored in cool and dry conditions over long periods of time. Protect the packages from heat and direct sunlight to prevent possible damages.

