

UBESTA 3030XA

Technical Product Information: AIR-BLOWN – PA monolayer film properties

UBESTA 3030XA is a basic, high viscosity Polyamide 12 homopolymer. The grade is suitable for a wide range of applications requesting good vapour barrier and/or dimensional stability. This material has the following features:

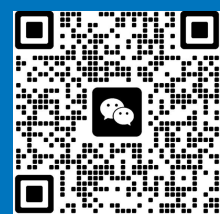
- Good processability
- Good water vapour barrier
- Low moisture absorption ratio

Basic Properties ⁽¹⁾	Method	Unit	Value
Polymer	-	-	PA12
Melting Point	ISO 11357	°C	178
MFI @ 235 °C, 2,16 Kg	ISO 1133	g/10 min	2
Density	DIN 53479	g/cm ³	1,02

Mechanical Properties ⁽²⁾	Method	Unit	Value
Tensile strength at yield	ISO 527-3	MPa	39 - 43
Tensile strength at break		MPa	100 - 120
Tensile elongation at break		%	490 - 510
Tensile modulus		MPa	1200 - 1300
Tear resistance	ASTM D 1922	N	0,6 - 0,8
Puncture energy	JAS P-1019	mJ	16 - 18
Puncture deformation		mm	6,0 - 7,0
Spencer impact resistance	ASTM D 3420	mJ	300 - 400
Flex crack (23°C, 1000 cycles / 5°C, 100 cycles)	Mil B-131C	Holes/0,04m ²	< 50 / 0

Optical Properties ⁽²⁾	Method	Unit	Value
Haze	ASTM D 1003	%	16 - 18
Gloss	ASTM D 523	%	75 - 95

Gas Barrier ⁽²⁾	Method	Unit	Value
Oxygen (T=23°C, RH=0%)	ASTM D 3985	ml/m ² .day	420 - 440
Water Vapour (T=40°C, RH=90%)	JIS Z-0208	g/m ² .day	40 - 60



Slip Properties ⁽²⁾	Method	Unit	Value
Coefficient of friction (static)	ASTM D 1894	-	0,36 - 0,40
Coefficient of friction (dynamic)		-	0,36 - 0,40

Thermoforming Properties ⁽²⁾	Method	Unit	Value
Max. Thermoforming depth	UBE METHOD	mm	60 - 70

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 5 layers airblown line, Die diameter = 90 mm · Die gap=1,4 mm

Structure: PE (outer) / PE / PA (medium) / PE / PE (inner), PA layer delaminated for the tests

Layer thickness distribution: PE = 50 µm, PA = 50 µm, PE = 50 µm (Total film thickness = 150 µm) · Cooling conditions: Chiller temp. = 13 °C · Take off rolls = 35 °C

Film orientation: Blow-up ratio = 2,1 · Take-off speed = 6m min⁻¹ · 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	190 - 210	210 - 230	230 - 250	230 - 250	230 - 250	230 - 250

Drying conditions

UBESTA 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.

