

## UBE NYLON 5034MTX1

### Technical Product Information: Monofilament properties

UBE NYLON 5034MTX1 is a soft, high viscosity Polyamide 6/6.6 copolymer for monofilament application, suitable for small and large diameter size where high flexibility and good optical properties are requested. This material has the following features:

- Excellent transparency
- Superior line strength and tenacity
- Outstanding processability

Basic Properties <sup>(1)</sup>	Method	Unit	Value
<b>Polymer</b>	-	-	PA6/6.6
<b>Melting Point</b>	ISO 11357	°C	192
<b>Relative Viscosity (96% H<sub>2</sub>SO<sub>4</sub>)</b>	JIS K6810	-	3,93
<b>Density</b>	DIN 53479	g/cm <sup>3</sup>	1,14

Mechanical Properties <sup>(2)</sup>		Unit	Value					
<b>Mechanical properties of monofilament d = 0,3mm</b>								
<b>Draw ratio (G3/G1)</b>			<b>4,5</b>	<b>5,0</b>	<b>5,5</b>	<b>6,0</b>	<b>6,5</b>	<b>7,0</b>
<b>Line</b>	Strength	g/d	5,5 - 6,5	6,5 - 7,5	7,5 - 8,5	8,5 - 9,5	9,0 - 10,0	
	Tenacity	kg	3,5 - 4,5	4,0 - 5,0	5,0 - 6,0	5,5 - 6,5	6,0 - 7,0	
	Elongation	%	50 - 60	40 - 50	30 - 40	25 - 35	20 - 30	
<b>Tensile modulus</b>		g/d	8 - 12	10 - 14	12 - 16	14 - 18	16 - 20	
<b>Knot</b>	Strength	g/d	5,0 - 6,0	5,5 - 6,5	6,0 - 7,0	6,5 - 7,5	6,0 - 7,0	
	Tenacity	kg	3,0 - 4,0	3,5 - 4,5	4,0 - 5,0	4,5 - 5,5	4,0 - 5,0	
	Elongation	%	45 - 55	30 - 40	25 - 35	15 - 25	10 - 20	
<b>Mechanical properties of monofilament d = 2,0mm</b>								
<b>Draw ratio (G3/G1)</b>			<b>4,5</b>	<b>5,0</b>	<b>5,5</b>	<b>6,0</b>	<b>6,5</b>	<b>7,0</b>
<b>Line</b>	Strength	g/d	4,0 - 5,0	5,0 - 6,0	6,5 - 7,5	6,5 - 7,5		
	Tenacity	kg	130 - 150	170 - 190	220 - 240	220 - 240		
	Elongation	%	35 - 45	25 - 35	25 - 35	20 - 30		
<b>Tensile modulus</b>		g/d	12 - 16	14 - 18	16 - 20	18 - 22		
<b>Knot</b>	Strength	g/d	2,0 - 3,0	2,5 - 3,5	2,5 - 3,5	2,0 - 3,0		
	Tenacity	kg	70 - 90	80 - 100	80 - 100	70 - 90		
	Elongation	%	20 - 30	20 - 30	15 - 25	15 - 25		

(1) Measured on base resin  
 (2) All tests carried out on monofilaments produced with a 35mm screw  
 Extrusion temperatures between 240-275°C  
 Quench bath temperature: 15°C  
 Drawing temperature: 1<sup>st</sup> = 95°C (hot water); 2<sup>nd</sup> = 180°C; Heat set = 180°C  
 Relaxation ratio (G4/G3) = 1; Line speed (G4) = 28 m·min<sup>-1</sup>  
 Sample conditioning and testing conditions: T = 23°C, RH =50%

## Processing conditions

	Extruder					Adaptor	Die
	Hopper	Zone 1	Zone 2	Zone 3	Zone 4		
<b>Temperature (°C)</b>	40 - 120	180 - 200	200 - 220	210 - 230	220 - 240	230 - 250	230 - 250

	Quenching bath	1 <sup>st</sup> drawing	2 <sup>nd</sup> drawing	Heat setting
<b>Temperature (°C)</b>	8 - 15	90 - 100	160 - 180	170 - 190

## 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.

## Health & environmental data

Please refer to the corresponding **UBE NYLON** grade SDS.

### IMPORTANT NOTICE:

The contents of here written materials were prepared based on materials, information and data available at the present moment. They may be revised because of new knowledge, information and data without notification. The data described herein are averaged values obtained by specific measurement. They are not guaranteed figures. UBE does not warrant or guarantee the quality or safety of your finished products, including but not limited to implied warranties of merchantability, fitness for a particular purpose and non infringement of third party rights or arising from a course of dealing, usage or trade practice even if UBE's products and data herein or any other information proposed by UBE are used to manufacture the finished products. Determination of suitability, merchantability or fitness for a particular purpose of your finished products shall be on your responsibility. UBE has no liability or legal responsibility for any issues or problems in relation to standards, regulations, laws, intellectual property rights - especially patent rights, etc. derived from any applications of UBE products for your finished products. So it should be fully researched and studied by yourself. UBE highly recommends reading Safety Data Sheet "SDS" before using UBE Products to ensure your safety. "UBE NYLON" and "UBESTA" is registered trademark in Japan and other countries.