



**Soft Super Engineering Plastics**

# Flexible Heat Resistant Polyamide

**New resin material with both flexibility and heat resistance at a high level.**

Unitika's unique polymerization and morphology control technologies have made the heat-resistant polyamide XecoT™ flexible. While maintaining the characteristics of XecoT™ such as heat resistance, chemical resistance, and biomass-derived, it has achieved a low elastic modulus comparable to that of rubbers and elastomers. This material set a new concept of "SOFT SUPER ENGINEERING PLASTIC". We aim to apply this technology to flexible materials such as tubes, sealants, anti-vibration materials, and wearable devices.

► **Flexibility**

Low modulus of 500 MPa or lower

► **Heat resistance**

The Melting point of 300°C or higher  
Reflow soldering compatible

► **Long-term durability**

Resistant to Heat, water and chemicals

► **Processability**

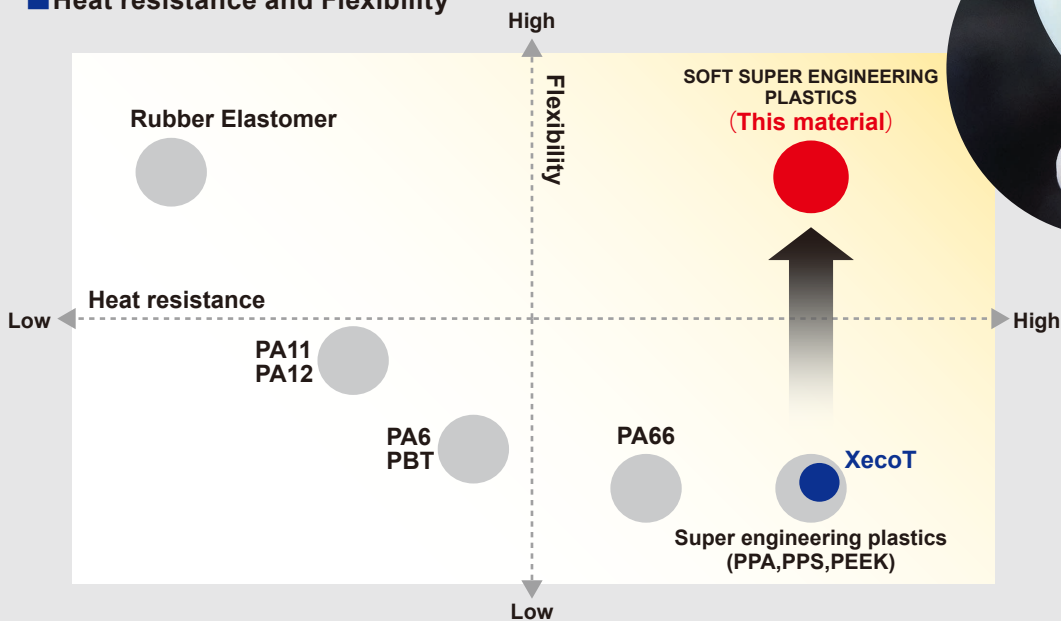
Melt processable thermoplastic polyamide

► **Sustainability**

Plant-derived and lightweight material

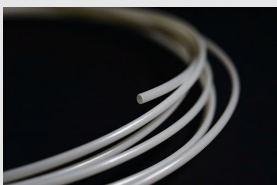
Technical data

■ **Heat resistance and Flexibility**



**Application example**

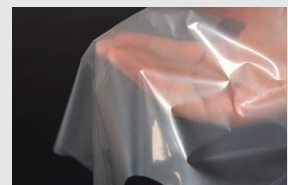
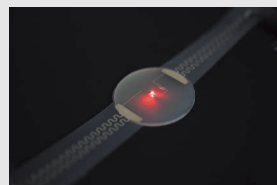
Tube



Sealing material



Film

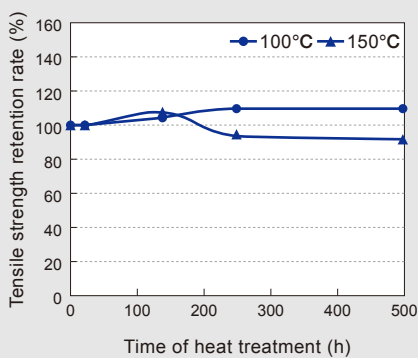


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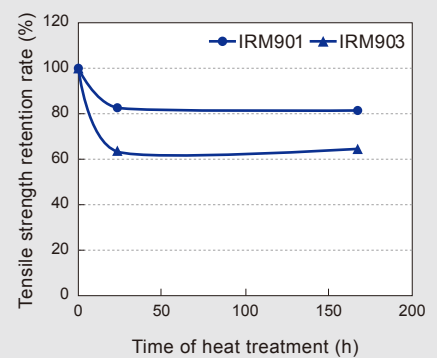
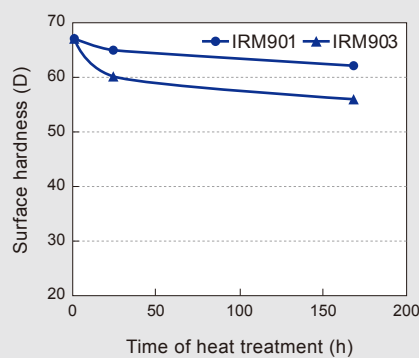
**General properties**

Items		Test standards	Units	Soft Super Engineering Plastic	Polyester elastomer	XecoT™ (UNITIKA)
Chemical characteristics	Density	ISO 1183	g/cm <sup>3</sup>	0.99	1.26	1.14
	Water absorption (23°C,50%RH)	ISO 62	%	0.6	0.3	0.9
Mechanical characteristics	Surface hardness	JIS K 7215	D	67	72	84
	Tensile elastic modulus	ISO 527	MPa	440	420	2,600
	Tensile strength			40	33	84
	Tensile elongation		%	160	310	15
	Flexural modulus	ISO 178	MPa	300	590	2,500
	Flexural strength			13	25	110
Thermal characteristics	Tg	DSC	°C	20	12	120
	Tm			312	216	315
Electrical characteristics	Dielectric constant (5.8GHz)	IEC 62810	—	2.4	—	—
	Dielectric dissipation factor (5.8GHz)			0.006	—	—

**Long-term heat resistance**



**Long-term oil resistance**



Test oil: IRM901, 903 (125°C)

(Notice) This product is under development. The information in this document is presented without guarantee and warranty.