XTHANE TPU 55A01 NC

TECHNICAL DATA SHEET

Product Feature :

TPU 55A is a thermoplastic polyurethane elastomer. It has good good mechanical properties, good heat resistance, humidity resistance, and excellent flexibility under very low temperature. It is both an injection and extrusion molding grade for high-end products. TPU 55 A is an extremely soft and flexible elastomer, similar to is an extremely soft and flexible elastomer, similar to soft rubber or a gel, used for components requiring high elasticity, vibration damping, and

Classifications Plastic Type TPU "Soft"

Plastic Sub-Type Polyester-based

Applications:

Available in pellet form or 3D printed, it is ideal for gaskets, soft grips, and medical applications.

Typical Properties	Test Method	Units	Typical values*
Form	N/A	-	Granules
Color	N/A	-	Transparent
Hardness	ASTM D-2240	Shore A	54 - 56
Gravity	ASTM D-792	g/cm3	1.18
100% Modulus of elasticity	ASTM D412	MPa	-
Tensile Stress	ASTM D-412	MPa	24
Tear Strength	ASTM D-624	N/mm	35
Ultimate Elongation	ASTM D-412	%	900
DIN Abrasion	DIN 53516	mm3	60
Yellow Index	ASTM E313	--	5

* All these physical properties are based on injection molded samples, which are conditioned at 23 ºC/50% for 24h.Above values are typical values and should not be used as specifications.

Identifiers

Chemical Name: MDI/ butylene glycol/ adipic acid copolymer CAS # 26375-23-5 Synonyms: Polyester-based TPU

Processing methods:

Injection, extrusion, calendaring, T-die extrusion

Special features: Excellent mechanical properties, outstanding abrasion resistance, short cycle time

Complying with FDA (21CFR 177.1680, 177.2600), RoHS, REACH, etc.

Applications

Elastic bands
Automotive Parts
Compounding
Footwear
Seals
Conveyor belts
Injection-molded engineering components
Screen packs
Oil tubes

Value Propositions

Short cycle time
Good wear resistance
Excellent Mechanical Properties
Outstanding abrasion resistance

Market Segments

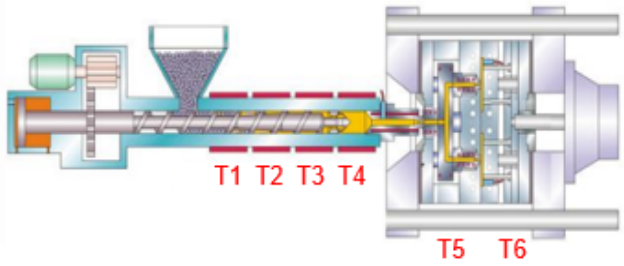
Plastics
Wire & cable
Footwear
Films & Sheets
Transportation
Automotive

Processing Guidelines

TPU “70A”
TECHNICAL DATA SHEET

Injection Moulding Guidelines

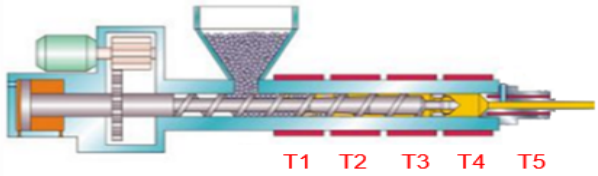
Mold Shrinkage:	0.015 ~ 0.025 inch/inch
Injection Speed:	Medium - Fast
Injection Pressure:	Medium - Fast
Back Pressure:	Low - Medium
Holding Pressure:	Sufficient to pack the mould
Cooling:	Can be demoulded when parts have sufficiently cooled



Barrel Temperature (℃)	T1: 110-120	T2: 140-150	T3: 170-180	T4: 170-185	T5/T6: 25 - 45

Extrusion Guidelines

L/D Ration:	20:1 - 25:1
Compression Ratio:	2.5 - 3.0
Breaker Plate/Screen:	Both should be used
Draw Down:	5 - 10%
Cooling:	Cold water bath



Barrel Temperature (℃)	T1: 110-120	T2: 140-150	T3: 170-180	T4: 170-185	T5/T6: 140 - 150

Processing Notes:

A、Drying before processing, it is recommended to dry for 3-5 hours at 80 degrees centigrade. If it is damp, the drying time
will be lengthened.

B、Cleaning the screw and die with PP or PE before and after processing.

C、The gate and runner can be recycled, but less than 15%.

D、PE/EVA base color masterbatch is better for coloring.