

# apilon 52® ESC 42

Thermoplastic Polyurethane Elastomer (Polyester)

API SpA

Message:

apilon 52®ESC 42 is a thermoplastic polyurethane elastomer (polyester)(TPU-polyester) product. It can be processed by extrusion or injection molding and is available in Europe. apilon 52®The application areas of ESC 42 include engineering/industrial accessories, electrical/electronic applications, electrical appliances, tools and home applications.

- Features include:
- environmental protection/green
  - Good UV resistance
  - low temperature resistance
  - chemical resistance
  - Wear-resistant

General Information			
Features	Antimicrobial		
	Good UV resistance		
	Recyclable materials		
	Good wear resistance		
	Low temperature resistance		
	Heat resistance, high		
	Hydrolysis resistance		
	Oil resistance		
Uses	Handle		
	Wheels		
	Conveyor belt repair		
	Electrical/Electronic Applications		
	Electrical appliances		
	Washer		
	Power/other tools		
	Pipe fittings		
	Household goods		
	Sporting goods		
	Coating application		
Forms	Particle		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm³	ASTM D792

Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shaw A, 15 seconds	88		ASTM D2240
Shaw D, 3 seconds	40		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
--	40.0	MPa	ASTM D638
100% strain	6.00	MPa	ASTM D638
300% strain	12.0	MPa	ASTM D638
Tensile Elongation (Break)	500	%	ASTM D638
Abrasion Resistance	30.0	mm <sup>3</sup>	DIN 53516
Elastomers	Nominal Value	Unit	Test Method
Tear Strength <sup>1</sup>	90.0	kN/m	ASTM D624
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (-20°C)	No Break		ASTM D256
Injection	Nominal Value	Unit	
Drying Temperature	80.0 - 110	°C	
Drying Time	2.0	hr	
Suggested Max Moisture	0.070	%	
Rear Temperature	180 - 190	°C	
Middle Temperature	185 - 200	°C	
Front Temperature	190 - 215	°C	
Nozzle Temperature	200 - 230	°C	
Mold Temperature	30.0 - 60.0	°C	
Injection Pressure	50.0 - 100	MPa	
Injection Rate	Slow-Moderate		
Injection instructions			
Back Pressure: Medium to LowLocking Pressure: High			
Extrusion	Nominal Value	Unit	
Drying Temperature	80.0 - 110	°C	
Drying Time	2.0	hr	
Suggested Max Moisture	0.070	%	
Cylinder Zone 1 Temp.	160 - 185	°C	
Cylinder Zone 2 Temp.	170 - 200	°C	
Cylinder Zone 3 Temp.	175 - 210	°C	
Cylinder Zone 4 Temp.	180 - 220	°C	
Die Temperature	170 - 210	°C	
Extrusion instructions			
L/D Ratio: 20:1 to 30:1Compression Ratio: 1:2.5 to 1:3			
NOTE			
1.	Without Notch		

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