# Mirakutoran® TPU E690

### Thermoplastic Polyurethane Elastomer Alloy

#### Japan Mirakutoran Inc.

Tensile Stress <sup>1</sup> (100% strain, 23°C,

Tensile Strength <sup>2</sup> (Yield, 23°C, 2.00 mm)

7.00

49.0

2.00mm)

#### Message:

Our TPU "Mirakutoran ®" has the following outstanding features.
Has excellent wear resistance
Tensile strength, high mechanical strength and tear strength
Is a wide range of hardness
High impact strength
Oil resistance and good chemical resistance
Excellent low temperature properties, weather resistance, ozone resistance and is also good
Flexible rubber elastic, vibration-effective silencing
Compared to other urethane elastomer thermoplastic that is more
Playback can be processed
Vulcanization process without curing reaction, very high productivity
Resins and other polymer is easy
Solution is easily dissolved in solvent process
Mirakutoran to the standard type E and P are two types.
Type E has a certain cross-linked structure in the molecule, and excellent mechanical strength and compression set. P type is characterized by good
liquidity linear structure

General Information					
Features	Shock absorption				
	Impact resistance, good				
	Good strength				
	Good flexibility				
	Good tear strength				
	Ozone resistance				
	Low temperature resistance				
	Good chemical resistance				
	Good wear resistance				
	Good weather resistance				
	Oil resistance				
Physical	Nominal Value	Unit	Test Method		
Specific Gravity	1.18	g/cm³	ASTM D792		
Hardness	Nominal Value	Unit	Test Method		
Durometer Hardness (Shore A, 23°C, 2.00mm, injection molding)	88 - 92		ASTM D2240		
Mechanical	Nominal Value	Unit	Test Method		
Taber Abrasion Resistance (23°C, 1000 Cycles, 1000 g, H-22 Wheel)	50.0	mg	ASTM D1044		
Elastomers	Nominal Value	Unit	Test Method		

MPa

MPa

ASTM D412

ASTM D412

Tensile Elongation <sup>3</sup> (Break, 23°C, 2.00 mm)	630	%	ASTM D412
Tear Strength <sup>4</sup> (23°C, 2.00 mm)	108	kN/m	ASTM D624
Compression Set (70°C, 22 hr)	28	%	ASTM D395
Rebound Resilience (23°C, 2.00 mm)	42	%	
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-53.0	°C	DSC
Vicat Softening Temperature	134	°C	ASTM D1525 <sup>5</sup>
Additional Information			
Test Methods: JIS K7311, K6262, K7206			
NOTE			
1.	300 mm/min		
2.	300 mm/min		
3.	300 mm/min		
4.	300 mm/min		
5.	压力1 (10N)		

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