# Mirakutoran® TPU E685

### Thermoplastic Polyurethane Elastomer Alloy

#### Japan Mirakutoran Inc.

## 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	1.17	g/cm³	ASTM D792
Hardness	Nominal Value	Unit	Test Method						
Durometer Hardness (Shore A, 23°C,									
2.00mm, injection molding)	83 - 87		ASTM D2240						
Mechanical	Nominal Value	Unit	Test Method						
Taber Abrasion Resistance (23°C, 1000									

Taber Abrasion Resistance (23°C, 1000 Cycles, 1000 g, H-22 Wheel)	40.0	mg	ASTM D1044
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress <sup>1</sup> (100% strain, 23°C,			
2.00mm)	6.00	MPa	ASTM D412
Tensile Strength <sup>2</sup> (Yield, 23°C, 2.00 mm)	45.0	MPa	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)	98.0	kN/m	ASTM D624
Rebound Resilience (23°C, 2.00 mm)	48	%	
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	131	°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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