

# PEBAX® RNEW® 55R53 SP 01

Pebax® Rnew® 55R53 SP 01 resin is a thermoplastic elastomer made of flexible polyether and rigid polyamide based on renewable resources. This SP grade has been developed to be heat and UV resistant.

The percentage of **renewable carbon measured** according to ASTM D6866 is 66%.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
<b>RHEOLOGICAL PROPERTIES</b>			
Molding Shrinkage, parallel	1.0 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	1.1 / *	%	ISO 294-4, 2577
<b>MECHANICAL PROPERTIES</b>			
Tensile Modulus	- / 160	MPa	ISO 527-1/-2
	- / 23200	psi	
Stress at 50% Strain	- / 13.4	MPa	ISO 527-1/-2
	- / 1940	psi	
Strain at Break	- / >50	%	ISO 527-1/-2
Strain at Break TPE	>300 / *	%	ISO 527-1/-2
Stress at Break TPE	45 / *	MPa	ISO 527-1/-2
	6530 / *	psi	
Shore D Hardness, after 15 s	51 / *	-	ISO 868
Charpy Impact Strength, +23°C	No Break / No Break	kJ/m²	ISO 179/1eU
Charpy Impact Strength, -30°C	No Break / No Break	kJ/m²	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	No Break / No Break	kJ/m²	ISO 179/1eA
Charpy Notched Impact Strength, -30°C	No Break / No Break	kJ/m²	ISO 179/1eA
<b>THERMAL PROPERTIES</b>			
Melting Temperature, 10°C/min	167 / *	°C	ISO 11357-1/-3
Vicat Softening Temperature, 50°C/h 50N	156 / *	°C	ISO 306
	313 / *	°F	
<b>OTHER PROPERTIES</b>			
%Bio-Based	66	-	ASTM D6866
Water Absorption, 23°C, immersion, equilibrium	1.5 / *	%	ISO 62
Humidity Absorption, 23°C, RH50%, equilibrium	0.7 / *	%	ISO 62
Density	1030 / 1030	kg/m³	ISO 1183
	1.03 / 1.03	g/cm³	

## MAIN APPLICATIONS:

- Flexible injected parts
- Athletic foot wear components

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## PACKAGING:

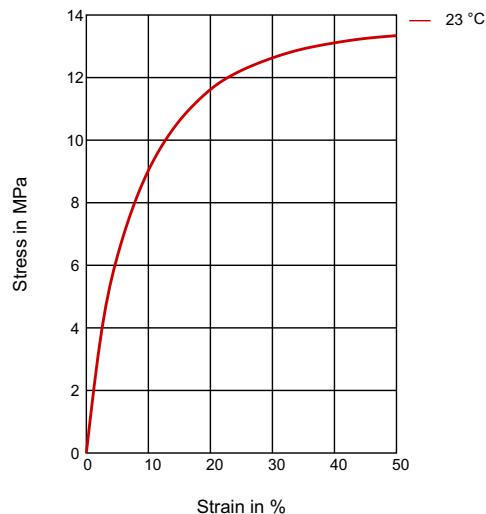
This grade is delivered dried in sealed packaging (20 and 25 kg bags) ready to be processed.

## SHELF LIFE:

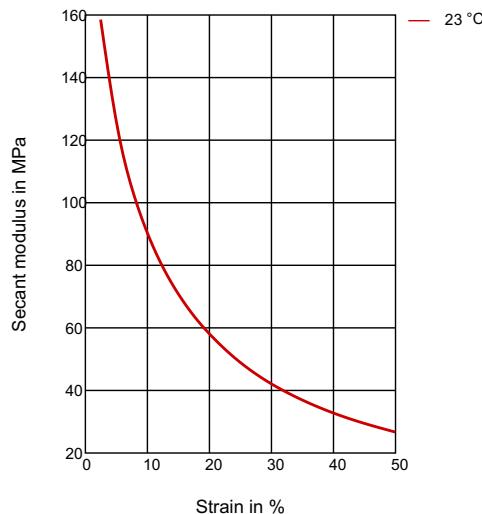
Two years from the delivery. For any use above this limit, please refer to our technical services.

## DIAGRAMS

### STRESS-STRAIN



### SECANT MODULUS-STRAIN



## Processing conditions (injection):

- Typical melt temperature (Min / Recommended / Max) : 200°C / 240°C / 270°C.
- Typical mold temperature : 25 – 60°C.
- Drying time and temperature (only necessary for bags opened for more than two hours) : 4-8 hours at 65-75°C.

## Processing conditions (extrusion):

- Typical melt temperature (Min / Recommended / Max): 210°C / 220°C / 230°C.
- Drying time and temperature (only necessary for bags opened for more than two hours): 4-8 hours at 65-75°C.

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<b>PROCESSING</b>  Injection Molding, Film Extrusion, Profile Extrusion, Other Extrusion, Transfer Molding, Casting, Thermoforming	Headquarters:  Arkema France 420 rue d'Estienne d'Orves 92705 Colombes Cedex France T +33 (0)1 49 00 80 80 hpp.arkema.com
<b>DELIVERY FORM</b>  Pellets	Arkema Inc. – High Performance Polymers  900 First Avenue King of Prussia, PA 19406 Tel.: +1 610 205 7000 hpp.arkema.com
<b>SPECIAL CHARACTERISTICS</b>  Bio-Based, Heat Stabilized, Light Stabilized	Arkema Inc. – High Performance Polymers  900 First Avenue King of Prussia, PA 19406 Tel.: +1 610 205 7000 hpp.arkema.com
<b>REGIONAL AVAILABILITY</b>  North America, Europe, Asia Pacific, South and Central America, Near East/Africa	Arkema Inc. – High Performance Polymers  900 First Avenue King of Prussia, PA 19406 Tel.: +1 610 205 7000 hpp.arkema.com

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