

DuPont™ Hytrel® RS

THERMOPLASTIC ELASTOMERS

Renewably Sourced Material Solutions



DuPont renewably sourced material

Introducing DuPont™ Hytrel® RS Thermoplastic Elastomers

Hytrel® RS thermoplastic elastomers bridge the gap between rubber and rigid plastics, and provide all the performance characteristics of traditional Hytrel® materials, while offering a more environmentally friendly solution than petroleum-based products. Containing between 20% and 60% renewably-sourced material, Hytrel® RS thermoplastic elastomers are made using renewably-sourced polyol derived from plant feedstocks.

Easily processed by conventional thermoplastic methods like injection moulding, blow moulding, calendaring, rotational moulding, extrusion, and melt casting, Hytrel® thermoplastic elastomers have many applications. These include hoses and tubing for automotive and industrial uses, boots for CV joints, air bag doors, and energy dampers.

Hytrel® RS offers comparable performance to standard grades of Hytrel®. New grades of Hytrel® RS are being developed to provide the performance required for specific applications.

Benefits of Hytrel® RS

Properties

- Excellent flex fatigue
- Low temperature flexibility
- Continuous range from -40° to +130°C
- Good chemical and oil resistance
- High mechanical properties

Potential Applications

- Automotive components
- Electrical/Electronic parts
- Industrial consumer products
- Office furniture
- Sporting goods



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Typical Properties of Hytrel® and Hytrel® RS

Property	Test Method	Units	Hytrel® 4069 NC010	Hytrel® RS40F3 NC010	Hytrel® RS40F5 NC010
Description			A low modulus grade for typical molding and extrusion processes with excellent low temperature properties.	A high flow, low modulus grade containing at least 50% renewably sourced ingredients by weight. It can be processed by injection molding.	A low modulus grade containing at least 50% renewably sourced ingredients by weight. It can be processed by injection molding and extrusion.
Tensile Properties @ 23°C					
Stress at Fmax	ISO 527 (5A bar @ 50 mm/min)	MPa	24.3	24.3	23.5
Strain at Break	ISO 527 (5A bar @ 50 mm/min)	%	522	682	543
Stress at 5%	ISO 527 (5A bar @ 50 mm/min)	MPa	2.1	2.1	2.1
Stress at 10%	ISO 527 (5A bar @ 50 mm/min)	MPa	3.5	3.5	3.5
Tensile Modulus	ISO 527 (5A bar @ 1 mm/min)	MPa	40	42	41.8
Hardness Shore D	ISO 868 - 1 sec ISO 868 - 15 sec	--- ---	35 33	34 32	35 32
Melting temperature	ISO 11357-3	°C	192	190	188
Density	ISO 1183 Method A	g/cm3	1.11	1.11	1.11
Melt Mass-Flow Rate	ISO 1133 (220°C / 2.16kg)	g/10min	8.5	20	9.2
Moisture absorption	ISO 62, Immersion 24h	%	0.75	0.71	0.74
Renewably sourced content, min		wt%	---	50%	50%



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DuPont Renewably Sourced Materials*...

- Cerenol™ polyols
- Hytrel® RS thermoplasti elastomers
- Biomax® RS renewably sourced resins
- Pro-Cote soy polymers
- Selar® VP barrier resins
- Sorona® polymers
- Susterra™ propanediol
- Zemea™ propanediol

...an ideal whose time has come

DuPont Renewably Sourced Materials - an idea whose time has come

DuPont renewably sourced materials are ideal substitutes for products that today are based solely on petroleum. Through DuPont innovation, key building blocks for many of the materials we use every day can now be derived from renewable resources - creating a much smaller environmental footprint than their petroleum-based predecessors with no compromise in performance. Either as a fuel or as an ingredient in the production of products, Renewably Sourced Materials are an idea whose time has come.

For more information about DuPont Renewably Sourced Materials, visit renewable.dupont.com

For more informatoin about DuPont Renewably Sourced Thermoplastics, visit plastics.dupont.com

REGIONAL CONTACT CENTERS FOR DUPONT™ HYTREL®

DuPont (China)
R&D and Management Co Ltd
600 Cailun Road,
Pudong New District
Shanghai 201203
Telephone +86 21 2892-1000
Fax +86 21 2892-1151

DuPont Kabushiki Kaisha
Sanno Park Tower, 11-1
Nagata-cho 2-chome
Chiyoda-ku
Tokyo 100-6111
Telephone +81 3 5521-8500
Fax +81 3 5521-2595

DuPont Engineering Polymers
2, chemin du Pavillon
CH-1218 Le Grand-Saconnex
Geneva, Switzerland
Telephone +41 22 717 5111
Fax +41 22 717 6966

DuPont Engineering Polymers
4417 Lancaster Pike
Chestnut Run Plaza 713
Wilmington, DE 19805
Telephone 800-441-0575
Telephone +1 302-999-4592
fax +1 302-999-4358

[Hytrel® web site](#)

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CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see DuPont Medical Caution Statement, H-50102.

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