

DuPont Performance Polymers Hytrel® RS R4275 BK316 Polyester Elastomer TPC-ET

Category : Polymer , Thermoplastic , Polyester, TP , Polyester Thermoplastic Elastomer

Material Notes:

55 Shore D Renewably Sourced High Viscosity Polyester Elastomer with Good Heat Ageing Protection Developed for Blow Molding

Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Hytrel-RS-R4275-BK316-Polyester-Elastomer-TPC-ET.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|
| Density | 1.00 g/cc | 0.0361 lb/in ³ | |
| | 1.17 g/cc | 0.0423 lb/in ³ | ISO 1183 |
| Water Absorption | 0.50 % | 0.50 % | Sim. to ISO 62 |
| | @Thickness 2.00 mm | @Thickness 0.0787 in | |
| Moisture Absorption | 0.200 % | 0.200 % | Sim. to ISO 62 |
| | @Thickness 2.00 mm | @Thickness 0.0787 in | |
| Linear Mold Shrinkage, Flow | 0.014 cm/cm | 0.014 in/in | ISO 294-4 2577 |
| Linear Mold Shrinkage, Transverse | 0.019 cm/cm | 0.019 in/in | ISO 294-4 2577 |
| Melt Flow | 6.0 g/10 min | 6.0 g/10 min | cm ³ /10min; ISO 1133 |
| | @Load 10.0 kg, Temperature 230 °C | @Load 22.0 lb, Temperature 446 °F | |
| | 6.0 g/10 min | 6.0 g/10 min | ISO 1133 |
| | @Load 10.0 kg, Temperature 230 °C | @Load 22.0 lb, Temperature 446 °F | |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------------|----------------|--------------|
| Hardness, Shore D | 50 | 50 | 15s; ISO 868 |
| Tensile Strength at Break | 35.0 MPa | 5080 psi | ISO 527-1/-2 |
| Tensile Stress | 6.40 MPa | 928 psi | ISO 527-1/-2 |
| | @Strain 5.00 % | @Strain 5.00 % | |
| | 10.0 MPa | 1450 psi | ISO 527-1/-2 |
| | @Strain 10.0 % | @Strain 10.0 % | |
| | 16.0 MPa | 2320 psi | ISO 527-1/-2 |

| Mechanical Properties | @Strain 50.0 % Metric | @Strain 50.0 % English | Comments |
|-----------------------|----------------------------------------|----------------------------------------|---------------------|
| | 21.0 MPa | 3050 psi | ISO 527-1/-2 |
| | @Strain 100 % | @Strain 100 % | |
| | 2.53 MPa | 367 psi | TPE; ISO 11403-1 -2 |
| | @Strain 4.51 %, Temperature 120 °C | @Strain 4.51 %, Temperature 248 °F | |
| | 2.54 MPa | 368 psi | TPE; ISO 11403-1 -2 |
| | @Strain 3.88 %, Temperature 100 °C | @Strain 3.88 %, Temperature 212 °F | |
| | 3.78 MPa | 548 psi | TPE; ISO 11403-1 -2 |
| | @Strain 5.25 %, Temperature 90.0 °C | @Strain 5.25 %, Temperature 194 °F | |
| | 3.80 MPa | 551 psi | TPE; ISO 11403-1 -2 |
| | @Strain 16.33 %, Temperature 160 °C | @Strain 16.33 %, Temperature 320 °F | |
| | 4.65 MPa | 674 psi | TPE; ISO 11403-1 -2 |
| | @Strain 11.14 %, Temperature 120 °C | @Strain 11.14 %, Temperature 248 °F | |
| | 4.70 MPa | 682 psi | TPE; ISO 11403-1 -2 |
| | @Strain 29.42 %, Temperature 160 °C | @Strain 29.42 %, Temperature 320 °F | |
| | 5.01 MPa | 727 psi | TPE; ISO 11403-1 -2 |
| | @Strain 9.86 %, Temperature 100 °C | @Strain 9.86 %, Temperature 212 °F | |
| | 5.27 MPa | 764 psi | TPE; ISO 11403-1 -2 |
| | @Strain 42.77 %, Temperature 160 °C | @Strain 42.77 %, Temperature 320 °F | |
| | 5.76 MPa | 835 psi | TPE; ISO 11403-1 -2 |
| | @Strain 56.03 %, Temperature 160 °C | @Strain 56.03 %, Temperature 320 °F | |
| | 5.83 MPa | 846 psi | TPE; ISO 11403-1 -2 |
| | @Strain 17.76 %, Temperature 120 °C | @Strain 17.76 %, Temperature 248 °F | |
| | 5.89 MPa | 854 psi | TPE; ISO 11403-1 -2 |
| | @Strain 6.53 %, Temperature 60.0 °C | @Strain 6.53 %, Temperature 140 °F | |
| | 6.21 MPa | 901 psi | |

| Mechanical Properties | Metric @Strain 68.93 %, Temperature 160 °C | English @Strain 68.93 %, Temperature 320 °F | TPE; ISO 11403-1 -2 Comments |
|-----------------------|--------------------------------------------------|---------------------------------------------------|---------------------------------|
| | 6.50 MPa | 943 psi | |
| | @Strain 15.83 %, Temperature 100 °C | @Strain 15.83 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 6.55 MPa | 950 psi | |
| | @Strain 24.38 %, Temperature 120 °C | @Strain 24.38 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 6.57 MPa | 953 psi | |
| | @Strain 12.05 %, Temperature 90.0 °C | @Strain 12.05 %, Temperature 194 °F | TPE; ISO 11403-1 -2 |
| | 6.80 MPa | 986 psi | |
| | @Strain 85.36 %, Temperature 160 °C | @Strain 85.36 %, Temperature 320 °F | TPE; ISO 11403-1 -2 |
| | 7.05 MPa | 1020 psi | |
| | @Strain 31.0 %, Temperature 120 °C | @Strain 31.0 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 7.33 MPa | 1060 psi | |
| | @Strain 100.05 %, Temperature 160 °C | @Strain 100.05 %, Temperature 320 °F | TPE; ISO 11403-1 -2 |
| | 7.44 MPa | 1080 psi | |
| | @Strain 21.8 %, Temperature 100 °C | @Strain 21.8 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 7.52 MPa | 1090 psi | |
| | @Strain 6.47 %, Temperature 40.0 °C | @Strain 6.47 %, Temperature 104 °F | TPE; ISO 11403-1 -2 |
| | 7.54 MPa | 1090 psi | |
| | @Strain 108.54 %, Temperature 160 °C | @Strain 108.54 %, Temperature 320 °F | TPE; ISO 11403-1 -2 |
| | 7.55 MPa | 1100 psi | |
| | @Strain 40.03 %, Temperature 120 °C | @Strain 40.03 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 7.73 MPa | 1120 psi | |
| | @Strain 116.86 %, Temperature 160 °C | @Strain 116.86 %, Temperature 320 °F | TPE; ISO 11403-1 -2 |
| | 7.91 MPa | 1150 psi | |
| | @Strain 48.45 %, Temperature 120 °C | @Strain 48.45 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|-----------------------------------------------------|-----------------------------------------------------|---------------------|
| | 7.07 MPa @Strain 127.94 %, Temperature 160 °C | 1150 psi @Strain 127.94 %, Temperature 320 °F | TPE; ISO 11403-1 -2 |
| | 8.03 MPa @Strain 27.18 %, Temperature 100 °C | 1160 psi @Strain 27.18 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 8.09 MPa @Strain 135.33 %, Temperature 160 °C | 1170 psi @Strain 135.33 %, Temperature 320 °F | TPE; ISO 11403-1 -2 |
| | 8.19 MPa @Strain 19.46 %, Temperature 90.0 °C | 1190 psi @Strain 19.46 %, Temperature 194 °F | TPE; ISO 11403-1 -2 |
| | 8.21 MPa @Strain 145.5 %, Temperature 160 °C | 1190 psi @Strain 145.5 %, Temperature 320 °F | TPE; ISO 11403-1 -2 |
| | 8.29 MPa @Strain 57.48 %, Temperature 120 °C | 1200 psi @Strain 57.48 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 8.63 MPa @Strain 66.51 %, Temperature 120 °C | 1250 psi @Strain 66.51 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 8.64 MPa @Strain 34.94 %, Temperature 100 °C | 1250 psi @Strain 34.94 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 9.12 MPa @Strain 42.71 %, Temperature 100 °C | 1320 psi @Strain 42.71 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 9.12 MPa @Strain 79.75 %, Temperature 120 °C | 1320 psi @Strain 79.75 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 9.13 MPa @Strain 26.87 %, Temperature 90.0 °C | 1320 psi @Strain 26.87 %, Temperature 194 °F | TPE; ISO 11403-1 -2 |
| | 9.41 MPa @Strain 88.18 %, Temperature 120 °C | 1360 psi @Strain 88.18 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 9.53 MPa @Strain 50.47 %, | 1380 psi @Strain 50.47 %, | TPE; ISO 11403-1 -2 |

| Mechanical Properties | Temperature 100 °C Metric | Temperature 212 °F English | Comments |
|-----------------------|-----------------------------------------|-----------------------------------------|---------------------|
| | 9.59 MPa | 1390 psi | |
| | @Strain 14.98 %, Temperature 60.0 °C | @Strain 14.98 %, Temperature 140 °F | TPE; ISO 11403-1 -2 |
| | 9.69 MPa | 1410 psi | |
| | @Strain 33.67 %, Temperature 90.0 °C | @Strain 33.67 %, Temperature 194 °F | TPE; ISO 11403-1 -2 |
| | 9.79 MPa | 1420 psi | |
| | @Strain 99.02 %, Temperature 120 °C | @Strain 99.02 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 9.90 MPa | 1440 psi | |
| | @Strain 58.24 %, Temperature 100 °C | @Strain 58.24 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 10.3 MPa | 1490 psi | |
| | @Strain 43.55 %, Temperature 90.0 °C | @Strain 43.55 %, Temperature 194 °F | TPE; ISO 11403-1 -2 |
| | 10.31 MPa | 1495 psi | |
| | @Strain 114.67 %, Temperature 120 °C | @Strain 114.67 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 10.44 MPa | 1514 psi | |
| | @Strain 70.19 %, Temperature 100 °C | @Strain 70.19 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 10.74 MPa | 1558 psi | |
| | @Strain 77.35 %, Temperature 100 °C | @Strain 77.35 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 10.76 MPa | 1561 psi | |
| | @Strain 52.81 %, Temperature 90.0 °C | @Strain 52.81 %, Temperature 194 °F | TPE; ISO 11403-1 -2 |
| | 10.8 MPa | 1570 psi | |
| | @Strain 132.12 %, Temperature 120 °C | @Strain 132.12 %, Temperature 248 °F | TPE; ISO 11403-1 -2 |
| | 10.9 MPa | 1580 psi | |
| | @Strain 7.67 %, Temperature 23.0 °C | @Strain 7.67 %, Temperature 73.4 °F | TPE; ISO 11403-1 -2 |
| | 11.16 MPa | 1619 psi | |
| | @Strain 87.51 %, Temperature 100 °C | @Strain 87.51 %, Temperature 212 °F | TPE; ISO 11403-1 -2 |
| | 11.23 MPa | 1629 psi | |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|-----------------------------------------|----------------------------------------|---------------------|
| | @Strain 62.7 %, Temperature 90.0 °C | @Strain 62.7 %, Temperature 194 °F | TPE; ISO 11403-1 -2 |
| | 11.46 MPa | 1662 psi | |
| | @Strain 24.19 %, Temperature 60.0 °C | @Strain 24.19 %, Temperature 140 °F | TPE; ISO 11403-1 -2 |

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