# RTP 2100 HF TFE 15

### Polyether Imide

### RTP Company

#### Message:

Warning: The status of this material is 'Commercial: Limited Issue'

The data for this material has not been recently verified.

Please contact RTP Company for current information prior to specifying this grade.

-Preliminary Product Data per RTP Co.-

Reatures	General Information			
RoHS Compliance Contact manufacturer  Appearance Black Natural color  Forms Particle Processing Method Injection molding Physical Nominal Value Unit Test Method Nordinal Specific Gravity 1.35 g/cm² ASTM D792 Molding Shrinkage - Flow (3.18 mm) 0.80 % ASTM D795 Mater Absorption (23°C, 24 hr) 0.25 % ASTM D795 Hardness Nominal Value Unit Test Method Rockwell Hardness (R-Scale) 118  ASTM D785 Mechanical Nominal Value Unit Test Method Tensile Modulus 3100 MPa ASTM D638 Tensile Strength 82.7 MPa ASTM D638 Tensile Elongation (Break) 8.0 % ASTM D638 Tensile Strength 114 MPa ASTM D638 Tensile Elongation (Break) 100 MPa ASTM D790 Flexural Modulus 2900 MPa ASTM D638 Tensile Strength 114 MPa ASTM D638 Tensile Strength 114 MPa ASTM D790 Flexural Strength 114 MPa ASTM D790 Compressive Strength 110 MPa ASTM D695 Coefficient of Friction (With Metal-Dynamic) 0.15 ASTM D638 Timpact Nominal Value Unit Test Method Notched Izod Impact (3.18 mm) 48 J/m ASTM D256 Unnotched Izod Impact (3.18 mm) 48 J/m ASTM D648	Additive	PTFE lubricant (15%)		
RoHS Compliance         Contact manufacturer           Appearance         Black Natural color           Forms         Particle           Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.35         g/cm²         ASTM D792           Molding Shrinkage - Flow (3.18 mm)         0.80         %         ASTM D795           Water Absorption (23°C, 24 hr)         0.25         %         ASTM D770           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Strength         144         MPa         ASTM D790           Elexural Strength         144         MPa         ASTM D790           Compressive Strength         110         MPa         ASTM D790           Compressive Strength         10 <td>Features</td> <td>Good liquidity</td> <td></td> <td></td>	Features	Good liquidity		
Appearance         Black Natural color           Forms         Particle           Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.35         g/cm³         ASTM D792           Molding Shrinkage - Flow (3.18 mm)         0.80         %         ASTM D955           Water Absorption (23°C, 24 hr)         0.25         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         L         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Strength         114         MPa         ASTM D695           Flexural Strength         110         MPa         ASTM D695           Flexural Strength         110         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         MPa         ASTM D695		Lubrication		
Appearance         Black Natural color           Forms         Particle           Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.35         g/cm³         ASTM D792           Molding Shrinkage - Flow (3.18 mm)         0.80         %         ASTM D955           Water Absorption (23°C, 24 hr)         0.25         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         L         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Strength         114         MPa         ASTM D695           Flexural Strength         110         MPa         ASTM D695           Flexural Strength         110         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         MPa         ASTM D695				
Forms Particle Processing Method Injection molding Physical Nominal Value Unit Test Method Specific Gravity 1.35 g/cm² ASTM D792 Molding Shrinkage - Flow (3.18 mm) 0.80 % ASTM D955 Water Absorption (23°C, 24 hr) 0.25 % ASTM D570 Hardness Nominal Value Unit Test Method Rockwell Hardness (R-Scale) 118	RoHS Compliance	Contact manufacturer		
Forms         Particle           Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.35         g/cm³         ASTM D792           Molding Shrinkage - Flow (3.18 mm)         0.80         %         ASTM D955           Water Absorption (23°C, 24 hr)         0.25         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         ASTM D785           Meehanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Strength         82.7         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Modulus         2900         MPa         ASTM D790           Flexural Strength         114         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         MPa         ASTM D1894           Impact         Nominal Value         Unit         Test Method <td>Appearance</td> <td>Black</td> <td></td> <td></td>	Appearance	Black		
Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.35         g/cm³         ASTM D792           Molding Shrinkage - Flow (3.18 mm)         0.80         %         ASTM D955           Water Absorption (23°C, 24 hr)         0.25         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Strength         82.7         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Modulus         2900         MPa         ASTM D790           Flexural Strength         114         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         0.15         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         0.15         ASTM D1894           Impact         Nominal Value         Unit         Test Method           Unnotchel Izod Impact (3.18 mm) </td <td></td> <td>Natural color</td> <td></td> <td></td>		Natural color		
Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.35         g/cm³         ASTM D792           Molding Shrinkage - Flow (3.18 mm)         0.80         %         ASTM D955           Water Absorption (23°C, 24 hr)         0.25         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Strength         82.7         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Modulus         2900         MPa         ASTM D790           Flexural Strength         114         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         0.15         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         Nominal Value         Unit         Test Method           Notched Izod Impact (3.18 mm)         48         J/m         ASTM D256           Unnotched Izod Impact (3.18 mm)         430         J/m	Forms	Particle		
Specific Gravity         1.35         g/cm³         ASTM D792           Molding Shrinkage - Flow (3.18 mm)         0.80         %         ASTM D955           Water Absorption (23°C, 24 hr)         0.25         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Strength         82.7         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Modulus         2900         MPa         ASTM D790           Flexural Strength         114         MPa         ASTM D790           Compressive Strength         110         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         0.15         ASTM D844           Impact         Nominal Value         Unit         Test Method           Unnotched Izod Impact (3.18 mm)         48         J/m         ASTM D4812           Thermal         Nominal Value         Unit         Test Method	Processing Method	Injection molding		
Molding Shrinkage - Flow (3.18 mm)         0.80         %         ASTM D955           Water Absorption (23°C, 24 hr)         0.25         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Strength         82.7         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Modulus         2900         MPa         ASTM D790           Flexural Strength         114         MPa         ASTM D790           Compressive Strength         110         MPa         ASTM D695           Coefficient of Friction (With         MPa         ASTM D695           Metal-Dynamic)         0.15         ASTM D1894           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (3.18 mm)         48         J/m         ASTM D256           Unnotched Izod Impact (3.18 mm)         430         J/m         ASTM D4812           Thermal         <	Physical	Nominal Value	Unit	Test Method
Water Absorption (23°C, 24 hr)         0.25         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (R-Scale)         118         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Strength         82.7         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Modulus         2900         MPa         ASTM D790           Flexural Strength         114         MPa         ASTM D790           Compressive Strength         110         MPa         ASTM D695           Coefficient of Friction (With         MPa         ASTM D695           Coefficient of Friction (With         MPa         ASTM D1894           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (3.18 mm)         48         J/m         ASTM D256           Unnotched Izod Impact (3.18 mm)         430         J/m         ASTM D4812           Thermal         Nominal Value         Unit         Test Method           Deflection Temperatur	Specific Gravity	1.35	g/cm³	ASTM D792
Hardness Nominal Value Unit Test Method Rockwell Hardness (R-Scale) 118	Molding Shrinkage - Flow (3.18 mm)	0.80	%	ASTM D955
Rockwell Hardness (R-Scale)  118  Mechanical  Nominal Value  Junit  Test Method  Tensile Modulus  3100  MPa  ASTM D638  Tensile Strength  82.7  MPa  ASTM D638  Tensile Elongation (Break)  8.0  MPa  ASTM D638  Flexural Modulus  2900  MPa  ASTM D638  Flexural Strength  114  MPa  ASTM D790  Flexural Strength  110  MPa  ASTM D790  Compressive Strength  110  MPa  ASTM D695  Coefficient of Friction (With Metal-Dynamic)  Nominal Value  Unit  Test Method  Notched Izod Impact (3.18 mm)  48  J/m  ASTM D256  Unnotched Izod Impact (3.18 mm)  430  J/m  ASTM D4812  Thermal  Deflection Temperature Under Load	Water Absorption (23°C, 24 hr)	0.25	%	ASTM D570
Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         3100         MPa         ASTM D638           Tensile Strength         82.7         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Modulus         2900         MPa         ASTM D790           Flexural Strength         114         MPa         ASTM D790           Compressive Strength         110         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         0.15         ASTM D695           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (3.18 mm)         48         J/m         ASTM D256           Unnotched Izod Impact (3.18 mm)         430         J/m         ASTM D4812           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load         ASTM D648	Hardness	Nominal Value	Unit	Test Method
Tensile Modulus         3100         MPa         ASTM D638           Tensile Strength         82.7         MPa         ASTM D638           Tensile Elongation (Break)         8.0         %         ASTM D638           Flexural Modulus         2900         MPa         ASTM D790           Flexural Strength         114         MPa         ASTM D790           Compressive Strength         110         MPa         ASTM D695           Coefficient of Friction (With Metal-Dynamic)         0.15         ASTM D1894           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (3.18 mm)         48         J/m         ASTM D4812           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load         ASTM D648	Rockwell Hardness (R-Scale)	118		ASTM D785
Tensile Strength 82.7 MPa ASTM D638  Tensile Elongation (Break) 8.0 % ASTM D638  Flexural Modulus 2900 MPa ASTM D790  Flexural Strength 114 MPa ASTM D790  Compressive Strength 110 MPa ASTM D695  Coefficient of Friction (With Metal-Dynamic) 0.15 ASTM D1894  Impact Nominal Value Unit Test Method  Notched Izod Impact (3.18 mm) 430 J/m ASTM D256  Unnotched Izod Impact (3.18 mm) Nominal Value Unit Test Method  Deflection Temperature Under Load ASTM D4812	Mechanical	Nominal Value	Unit	Test Method
Tensile Elongation (Break) 8.0 % ASTM D638  Flexural Modulus 2900 MPa ASTM D790  Flexural Strength 114 MPa ASTM D790  Compressive Strength 110 MPa ASTM D695  Coefficient of Friction (With Metal-Dynamic) 0.15 ASTM D1894  Impact Nominal Value Unit Test Method  Notched Izod Impact (3.18 mm) 48 J/m ASTM D256  Unnotched Izod Impact (3.18 mm) 430 J/m ASTM D4812  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load ASTM D648	Tensile Modulus	3100	МРа	ASTM D638
Flexural Modulus 2900 MPa ASTM D790  Flexural Strength 114 MPa ASTM D790  Compressive Strength 110 MPa ASTM D695  Coefficient of Friction (With Metal-Dynamic) 0.15 ASTM D1894  Impact Nominal Value Unit Test Method  Notched Izod Impact (3.18 mm) 48 J/m ASTM D256  Unnotched Izod Impact (3.18 mm) 430 J/m ASTM D4812  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load  ASTM D648	Tensile Strength	82.7	МРа	ASTM D638
Flexural Strength 114 MPa ASTM D790  Compressive Strength 110 MPa ASTM D695  Coefficient of Friction (With Metal-Dynamic) 0.15 ASTM D1894  Impact Nominal Value Unit Test Method  Notched Izod Impact (3.18 mm) 48 J/m ASTM D256  Unnotched Izod Impact (3.18 mm) 430 J/m ASTM D4812  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load ASTM D4812	Tensile Elongation (Break)	8.0	%	ASTM D638
Compressive Strength 110 MPa ASTM D695  Coefficient of Friction (With Metal-Dynamic) 0.15 ASTM D1894  Impact Nominal Value Unit Test Method  Notched Izod Impact (3.18 mm) 48 J/m ASTM D256  Unnotched Izod Impact (3.18 mm) 430 J/m ASTM D4812  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load ASTM D648	Flexural Modulus	2900	МРа	ASTM D790
Coefficient of Friction (With Metal-Dynamic) 0.15 ASTM D1894 Impact Nominal Value Unit Test Method Notched Izod Impact (3.18 mm) 48 J/m ASTM D256 Unnotched Izod Impact (3.18 mm) 430 J/m ASTM D4812 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load  ASTM D4812	Flexural Strength	114	МРа	ASTM D790
Metal-Dynamic)0.15ASTM D1894ImpactNominal ValueUnitTest MethodNotched Izod Impact (3.18 mm)48J/mASTM D256Unnotched Izod Impact (3.18 mm)430J/mASTM D4812ThermalNominal ValueUnitTest MethodDeflection Temperature Under LoadASTM D648	Compressive Strength	110	МРа	ASTM D695
Notched Izod Impact (3.18 mm) 48 J/m ASTM D256 Unnotched Izod Impact (3.18 mm) 430 J/m ASTM D4812 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load ASTM D648	Coefficient of Friction (With Metal-Dynamic)	0.15		ASTM D1894
Unnotched Izod Impact (3.18 mm) 430 J/m ASTM D4812  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load ASTM D648	Impact	Nominal Value	Unit	Test Method
Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load ASTM D648	Notched Izod Impact (3.18 mm)	48	J/m	ASTM D256
Deflection Temperature Under Load ASTM D648	Unnotched Izod Impact (3.18 mm)	430	J/m	ASTM D4812
·	Thermal	Nominal Value	Unit	Test Method
0.45 MPa, not annealed 207 °C ASTM D648	Deflection Temperature Under Load			ASTM D648
	0.45 MPa, not annealed	207	°C	ASTM D648

1.8 MPa, not annealed	196	°C	ASTM D648
CLTE - Flow	5.6E-5	cm/cm/°C	ASTM D696
Thermal Conductivity	0.22	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	20	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	3.20		ASTM D150
Dissipation Factor (1 MHz)	4.0E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94

#### Additional Information

Wear Factor, K, ASTM D-3702: 65E-10in<sup>3</sup>/min/ft/lb/hrCoefficient of Friction, Dynamic, ASTM D-3702: 0.15The wear factor and coefficient of friction were both tested on a Falex Model No.6 Wear Testing Machine at 50 FPM, 2000 PV, against C1018 steel of hardness 15-25 Rockwell C, 14-17 micro smoothness.

Injection	Nominal Value	Unit
Drying Temperature	149	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.020	%
Suggested Max Regrind	20	%
Rear Temperature	343 - 399	°C
Middle Temperature	343 - 399	°C
Front Temperature	343 - 399	°C
Mold Temperature	93.3 - 177	°C
Injection Pressure	103 - 138	МРа
Back Pressure	0.345 - 0.517	МРа
Clamp Tonnage	6.9 - 11	kN/cm²

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#### Recommended distributors for this material

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