

**Starflam® PW0042E**

Ascend Performance Materials Operations LLC - Polyamide 6

**General Information**
**Product Description**

Starflam PW0042E is a mineral filled, flame retardant PA6 for injection molded applications. The material is halogen free and red phosphorus free.

**General**

Material Status	• Commercial: Active
Availability	• Europe • North America
Filler / Reinforcement	• Mineral, 20% Filler by Weight
Additive	• Flame Retardant • Heat Stabilizer • Mold Release
Features	• Flame Retardant • Halogen Free • Heat Stabilized
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID	• PA6-MF20 FR

**Properties <sup>1</sup>**

<b>Physical</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Density	1.34	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.0	--	%	
Flow : 73°F, 0.0787 in	1.1	--	%	
Water Absorption (24 hr, 73°F)	1.4	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.7	--	%	ISO 62
<b>Mechanical</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Tensile Modulus (73°F)	754000	319000	psi	ISO 527-1
Tensile Stress (Break, 73°F)	10600	4790	psi	ISO 527-2
Tensile Strain (Break, 73°F)	2.8	12	%	ISO 527-2
Flexural Modulus (73°F)	754000	305000	psi	ISO 178
Flexural Stress (73°F)	15800	5800	psi	ISO 178
<b>Impact</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	1.2	1.0	ft·lb/in <sup>2</sup>	
-22°F	1.2	1.0	ft·lb/in <sup>2</sup>	
73°F	1.5	2.0	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°F	15	14	ft·lb/in <sup>2</sup>	
-22°F	17	15	ft·lb/in <sup>2</sup>	
73°F	18	36	ft·lb/in <sup>2</sup>	
Notched Izod Impact Strength				ISO 180/1A
-40°F	1.5	1.3	ft·lb/in <sup>2</sup>	
-22°F	1.6	1.3	ft·lb/in <sup>2</sup>	
73°F	1.9	2.3	ft·lb/in <sup>2</sup>	
Unnotched Izod Impact Strength (73°F)	21	--	ft·lb/in <sup>2</sup>	ISO 180/1U
<b>Thermal</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Deflection Temperature Under Load (66 psi, Unannealed)	370	--	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	183	--	°F	ISO 75-2/A
Melting Temperature	428	--	°F	ISO 11357-3
RTI Elec (0.030 in)	149	--	°F	UL 746B



RTI Imp (0.030 in)	149	--	°F	UL 746B
RTI Str (0.030 in)	149	--	°F	UL 746B
<b>Electrical</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Electric Strength (0.0394 in)	640	530	V/mil	IEC 60243-1
<b>Flammability</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Flame Rating (0.030 in)	V-2	--		UL 94

### Processing Information

<b>Injection</b>	<b>Dry</b>	<b>Unit</b>
Drying Temperature	176	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.20	%
Rear Temperature	464 to 482	°F
Middle Temperature	482 to 500	°F
Front Temperature	482 to 518	°F
Processing (Melt) Temp	482 to 518	°F
Mold Temperature	122 to 194	°F

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

