



## TYPICAL PROPERTY SHEETS - FIT FILAMENT YARNS AND FIBERS MADE WITH ULTEM\* PEI RESIN

### Description

FIT filament yarns and fibers are produced from SABIC Innovative Plastics' Ultem polyetherimide (PEI) thermoplastic polymer. These materials have an outstanding combination of fire resistance, low smoke generation, and low toxicity smoke that, when combined with its outstanding dyeability across a broad range of colors, makes FIT filament yarns and fibers made with Ultem PEI resin good candidates for a broad range of performance textile applications.

Filament deniers: from 200 to 1200 denier  
 Filament counts: multiples of 36 (36, 72, 144, etc)  
 Fiber deniers: 2 denier per filament and up, staple cut lengths available (semi-works)  
 Texture: flat with or without air tack  
 Color: natural

Market Application: **FILAMENT YARNS FOR COMPOSITES and DYEING (SAFETY AND PROTECTIVE APPAREL)**

FIT PEI filament yarns can be produced in low-shrink format for structural composites manufacturing processes where the Ultem is melted to become the resin component of the part. Ultem is also suitable for skein, package, and piece dyeing applications that will produce extremely deep and bright colors for consumer and industrial apparel applications.

Description	576/288
Product ID	F1000-1008
Denier (nominal)	576
DPF, denier per filament	2.0
Tenacity (g/den)	2.6
Elongation to break (%)	83
Hot air shrinkage @ 180°C (%)	3.0
Finish (% wt)	0.8

Market Application: **FILAMENT YARNS FOR REGULATED TRANSPORTATION**

FIT PEI yarns can be converted into fabrics that exhibit outstanding fire retardant and low smoke generation and toxicity properties in regulated transportation applications.

Description	200/18	200/36
Product ID	F1000-1012	F1000-1011
Denier (nominal)	200	200
Interlacing (nodes/m)	25	24
Tenacity (g/den)	2.7	3.0
Elongation to break (%)	56	74
Hot air shrinkage @ 180°C (%)	5.3	4.8
Finish (% wt)	0.9	0.7

Market Application: **STAPLE FIBER FOR DYEING, NONWOVENS, AND YARN SPINNING**

FIT PEI fibers can be converted into nonwovens and yarns with outstanding fire retardant and low smoke generation and toxicity properties. This fiber can also be dyed with polyester disperse dyes to an extremely broad range of colors for appealing consumer and safety and protective apparel applications.

Description	2 dpf x 2"	4 dpf x 3"	6 dpf x 6"
Product ID	F1000-1008	F1000-1030	F1000-1001
Denier (nominal)	2.0	4.0	6.0
Staple length (inch)	2.0	3.0	5.9
Tenacity (gpd)	2.3	3.0	2.8
Elongation to break (%)	30	65	95
Finish level (% wt)	0.50	0.50	0.50
Hot air shrinkage @180°C (%)	4.3	3.3	5.5
Crimp per Inch	8-10	8-10	8-10

Market Application: **FIRE BLOCKER AND ELECTRICAL WETLAID**

FIT PEI fibers can be short cut and wetlaid on papermaking equipment to produce nonwovens with outstanding fiber formation uniformity for high performance electrical wire wrap and fire blocker applications.

Description	4dpf x 1/4"
Product ID	F1000-1003
Denier per filament (dpf)	4.0
Cut length (inch)	0.25
Elongation to break (%)	40
Tenacity (g/den)	4.0
Finish level (% wt)	1.1

ULTEM™ Resin Typical Properties

**Physical**

Specific Gravity, g/cc	1.27
Water Absorption, immersion, 23°C, 24 hr, %	1.38
Water Absorption, 50% RH, 23°C, 24 hrs, %	0.48

**Thermal**

Coefficient of Thermal Expansion, -20°C to 150°C, flow	5.58E-05
Glass Transition Temperature, °C	217

**Flammability**

UL 94 Performance (50-100 µm films)	VTM-0
Limiting Oxygen Index, %	44

For more information, call Ed Homonoff, FIT PEI filament product manager @ 860-774-5949 (office) or 860-377-4656 (cell), or contact us at [www.fitfibers.com](http://www.fitfibers.com).

Ultem\* is a trademark of SABIC Innovative Plastics IP BV.



Dyed ULTEM yarn. Dye procedure is available upon request.

Updated November 17, 2009, 2009.

To the best of our knowledge, the information contained herein is accurate; however, Fiber Innovation Technology assumes no liability for any inaccuracy. Final determination of suitability of any material and whether there is any infringement of patents is the sole responsibility of the user.

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