PREMIER™ PC-ABS

FLAME RETARDANT GRADE (FR) ELECTRICALLY CONDUCTIVE THERMOPLASTIC ALLOY

Customer Value Proposition:

Parker Chomerics PREMIER™ PC-ABS Flame Rated Grade (FR Family) is a superior electrically conductive plastic compound that has excellent processability using injection molding. The FR grades are a subgroup of PC-ABS materials which provide UL V-0 rated flame retardancy using our nickel-plated carbon fibers and nickel-plated granular fillers.

PREMIER uses a single pellet system with pultrusion compounding to ensure uniform conductive filler within each pellet

Available in three shielding performance levels based on conductive filler loading:

- Economy (A220-FR)
- Moderate (A230-FRHF)
- Premium (A240-FRHF)

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Product Features:

- Single pellet composition eliminates inconsistent mix ratio problems associated with multi pellet blends
- 70° C continuous use temperature rating
- Carbon fiber and granular fillers
- Flame retardant UL 94 V-0 rated

Typical Applications:

- Patient monitoring medical applications
- Man portable military handhelds
- In cabin controls in aircraft
- Industrial controls
- Medical diagnostic devices
- Critical care applications
- Military displays

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PREMIER™ PC-ABS FLAME RETARDANT GRADE (FR)

PREMIER PC-ABS Flame Retardant Grade (FR) Plastic Pellets provide up to 70° C continuous use temperature rating and UL V-0 rated grades of our nickel-plated carbon fiber and granule filled polymers. Moderate and premium filled versions use “HF” (hybrid filler) granular graphite to improve cost and minimize post mold warpage.

	Typical Properties*	PREMIER A220-FR	PREMIER A230-FRHF	PREMIER A240-FRHF	Test Method
Shielding Effectiveness	Average from: 30 to 1,500 MHz* 1,000 to 4,000 MHz** 6,000 to 12,000 MHz** 14,000 to 18,000 MHz** 20,000 to 40,000 MHz**	 50 – 60 dB 52 – 65 dB 62 – 70 dB 70 – 82 dB 73 – 85 dB	 60 – 70 dB 62 – 75 dB 68 – 76 dB 75 – 85 dB 78 – 89 dB	 70 – 80 dB 72 – 85 dB 73 – 81 dB 79 – 89 dB 83 – 92 dB	*ATSM D4935 **IEEE 299 (Modified)
Physical	Specific Gravity	1.2	1.39	1.4	ASTM D792
	Mold Shrinkage 0.125 in (3.2 mm) (in/in)	1.0025 / 1.000	1.0025 / 1.000	1.0025 / 1.000	ASTM D995
Mechanical	Tensile Modulus (Mpsi)	0.84	0.97	1.17	ASTM D638
	Tensile Strength @ Break (psi)	9,900	10,300	10,400	ASTM D638
	Tensile Elongation @ Break (%)	1	1.2	0.5	ASTM D638
	Flexural Modulus (Mpsi)	0.75	0.91	1.1	ASTM D790
	Flexural Strength (psi)	15,800	13,700	15,000	ASTM D790
Impact	Izod - Notched 73° F (23° C) (ft-lb/in)	1.1	1	1.2	ASTM D256
	Izod - Unnotched 73° F (23° C) (ft-lb/in)	3.69	3.3	3.6	ASTM D4812
Thermal	HDUL @ 264 psi (1.82 MPa) (° C)	70 ° C	80 ° C	85 ° C	ASTM D648
	Thermal Conductivity (W/m-K)	0.56	0.59	0.7	ASTM D5470
	Flammability Rating @ 1.5 mm	V-0	V-0	V-0	UL 94
Electrical	Surface Resistance (Ohm/sq)	4.5	0.6	0.25	MIL-DTL-83528C
	Through Resistance (Ohm)	0.6	0.06	0.03	PRE-012

* Typical properties: these are not to be construed as specifications.

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