

**PRODUCT TECHNICAL DATA SHEET**

# KyronMAX® S-2220

## Nylon Based Structural Compound

### Product benefits

- High physical strength
- Ductility
- Heat resistance
- High wear resistance
- Chemical resistance of hydrocarbons
- Low coefficient of friction.

### Industrial/Application Examples

- Automotive – bushings, washers, pistons, brackets, handles
- Aerospace – latches, rings, hinges, spacers, seals, adapters
- Electrical – pins, fasteners, end effectors, connectors, panels
- Medical – clamps, vanes, housings, bushings, gears, valves
- Energy – seals, bearings, plugs, umbilical's, back-up rings
- Industrial – valve plates, column packing, gears, valve seats

MECHANICAL	Test Method	English		Metric	
		Typical Value	Unit	Typical Value	Unit
Specific Density	ASTM D792	1.23	g/cm <sup>3</sup>	1.23	g/cm <sup>3</sup>
Tensile Strength	ASTM D638	44,000	psi	303	MPa
Tensile Modulus of Elasticity	ASTM D638	3,000	ksi	21	Gpa
Tensile Elongation	ASTM D638	2.80	%	2.80	%
Flexural Strength	ASTM D790	53,000	psi	365	MPa
Flexural Modulus of Elasticity	ASTM D790	2,200	ksi	15	GPa
Shear Strength	ASTM D732	17,748	psi	121	MPa
Compressive Strength	ASTM D695	37,000	psi	255	MPa
Compressive Modulus of Elasticity	ASTM D695	920	ksi	6	Gpa
Hardness, Shore D	ASTM D2240	89		89	
Notched Izod Impact	ASTM D256	2.9	ft-lb/in	154	J/m
Unnotched Izod Impact	ASTM D4812	20	ft-lb/in	1060	J/m

### THERMAL

Glass Transition (T <sub>g</sub> )	ASTM D3418	122	°F	50	°C
Melting Point	ASTM D3418	505	°F	263	°C
Deflection Temperature at 1.8 MPa (264psi)	ASTM D648	500	°F	260	°C

### ELECTRICAL

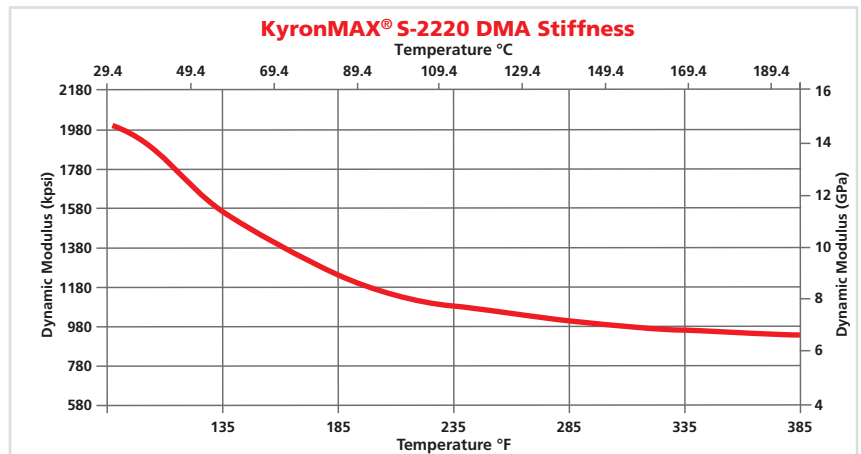
Surface Resistivity	ASTM D257	<10 <sup>5</sup>	ohm/sq	<10 <sup>5</sup>	ohm/sq
Flammability	UL 94 <sup>1</sup>	HB		HB	

### CHEMICAL

Moisture, 24 hours	ASTM D570	0.625	% by wt	0.625	% by wt
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KyronMAX® materials are lightweight and, when molded, parts are 75% lighter than steel and almost 40% lighter than aluminum. By utilizing the lower density of KyronMAX®, customers can simultaneously realize lower costs and lighter parts, while also taking advantage of unmatched tensile and toughness properties.

The better “practical toughness” values are achieved with lower filler loading, which increases the material’s elongation at yield. KyronMAX® molded parts are more likely to yield, rather than fracture under high-stress loads. KyronMAX® stronger fibers and lower filler loadings further elevate molded product performance with significantly better knit line strength compared to other filled polymers.



Aluminum bracket with half FEA analysis (left) and KyronMAX® final molded part (right). The FEA analysis is used to translate a metal part into a lightweight plastic molded part, while matching or exceeding the strength and stiffness of the original metal part.

Mitsubishi Chemical Advanced Materials (MCAM) can take your metal parts and use our proprietary Finite-Element Analysis (FEA) to engineer a high-performance product with KyronMAX® materials. MCAM’s unique FEA data offers a solution to accurately predict the mechanical performance of a part in real world applications with key features including mechanical stress, plastic injection molding flow, fatigue, and motion.

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1 Does not represent actual testing conducted by MCAM but is an estimated rating based on available data. The UL 94 Test is a laboratory test and does not relate to actual fire hazard.