MITSUBISHI CHEMICAL ADVANCED MATERIALS | KyronMAX®

PRODUCT TECHNICAL DATA SHEET

KyronMAX® S-2240

Nylon Based Structural Compound

Product benefits

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

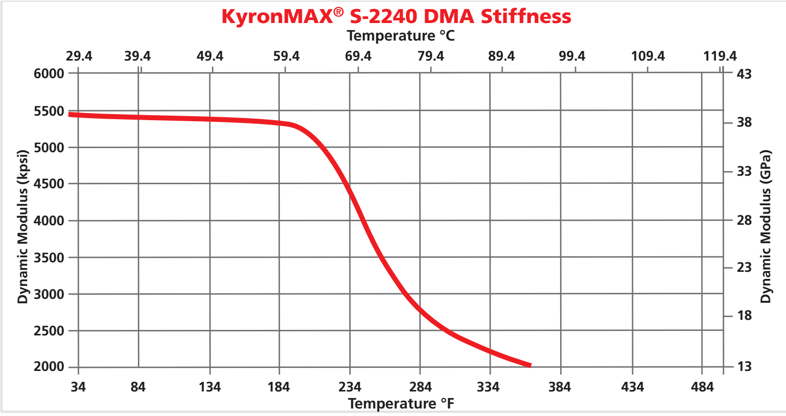
Industrial/Application Examples

- 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

		English		Metric	
MECHANICAL	**Test Method**	**Typical Value**	**Unit**	**Typical Value**	**Unit**
Specific Density	ASTM D792	1.32	g/cm^3	1.32	g/cm^3
Tensile Strength	ASTM D638	46,400	psi	320	MPa
Tensile Modulus of Elasticity	ASTM D638	6,300	ksi	43	Gpa
Tensile Elongation	ASTM D638	1.30	%	1.30	%
Flexural Strength	ASTM D790	65,000	psi	448	MPa
Flexural Modulus of Elasticity	ASTM D790	5,500	ksi	38	GPa
Shear Strength	ASTM D732	19,200	psi	132	MPa
Compressive Strength	ASTM D695	48,000	psi	331	MPa
Compressive Modulus of Elasticity	ASTM D695	1,140	ksi	8	Gpa
Hardness, Shore D	ASTM D2240	94		94	
Notched Izod Impact	ASTM D256	1.9	ft-lb/in	101	J/m
Unnotched Izod Impact	ASTM D4812	12	ft-lb/in	636	J/m
THERMAL					
Glass Transition (Tg)	ASTM D3418	122	°F	50	°C
Melting Point	ASTM D3418	505	°F	263	°C
Deflection Temperature at 1.8 MPa (264psi)	ASTM D648	563	ºF	295	ºC
ELECTRICAL					
Surface Resistivity	ASTM D257	$<10^4$	ohm/sq	$<10^4$	ohm/sq
Flammability	UL 94[1]	HB		HB	
CHEMICAL					
Moisture, 24 hours	ASTM D570	0.128	% by wt	0.128	% by wt

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.

USA – Arizona

1705 North 48th Street
Mesa, AZ 85205 USA
Tel: 480.926.8100
Fax: 480.497.1530
KyronMAX@mcam.com

USA – Illinois

1840 Enterprise Court
Libertyville, IL 60048 USA
Tel: 847.367.0110
Fax: 847.367.0566

Asia – Thailand/Singapore

Eastern Seaboard Industrial Estate
Rayong 64/103, Moo 4, T. Pluakdaeng
A. Pluakdaeng, Rayong 21140 Thailand
Tel: +66 33 659 141
Fax: 847.367.0566

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.