



PACTUMAX

INTERNATIONAL PTE LTD

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Welcome to our new issue of Pactumax Monthly Advanced Product Alert for Year 2021 – keeping you informed of new product and materials advancements.

This month's featured items are **Ceramic-Filled PEEK Kyron 2204** and **High Density Polyethylene**.

Ceramic-Filled PEEK Kyron 2204 has an excellent balance of properties including outstanding dimensional stability, ductility, low moisture absorption, high purity, and strength. It is ideal for tight tolerance, intricate machined components, is resistant to heat and aggressive chemicals, and is available in white and gray.

High Density Polyethylene HDPE (High Density Polyethylene), part of the polyolefin family of materials, is a semi-crystalline thermoplastic material, with a continuous use temperature range of -50° F (-46° C) to 180° F (82° C). It is categorized as a standard material, and offers high impact strength, high chemical resistance, and very low water absorption.

ADVANCED PRODUCT ALERT OF THE MONTH

Ceramic-Filled PEEK Kyron 2204

Manufactured by



PRODUCT OVERVIEW

PEEK with Ceramic Fillers significantly improve its mechanical properties. It has an excellent balance of properties including outstanding dimensional stability, ductility, low moisture absorption, high purity, and strength. It is ideal for tight tolerance, intricate machined components, is resistant to heat and aggressive chemicals, and is available in white and gray. As the semiconductor industry's demand for smaller, tight tolerance IC packages that operate at higher frequencies is making it increasingly difficult for traditional materials previously used for microprocessor test socket applications.



ADVANTAGES

- Peek With Ceramic Fillers to Significantly Improve Its Mechanical Property
- Excellent Dimension Stability
- Good Impact Strength, Stiffness, and Minimum Level of Creep
- Better Impact Resistance and Toughness Compared With Ceramics
- Excellent Machinability With Tighter Pitch and Fine Dimension Hole

PRODUCT COLORS

- White
- Grey

APPLICATIONS

- Back End Test Sockets
- Switches
- Connectors.

TYPICAL PROPERTIES OF CERAMIC-FILLED PEEK KYRON 2204

General Properties	ASTM or UL TEST	KYRON 2204 Typical Values
PHYSICAL		
Specific Gravity (g/cm ³)	D792	1.51
Water Absorption, 24hr (%)	D570	0.37
MECHANICAL		
Tensile Strength (psi)	D638	15,500
Tensile Elongation at Break (%)	D638	21
Flexural Strength (psi)	D790	26,500
Flexural Modulus (psi)	D790	750,000
IZOD Notched Impact (ft-lb / in)	D256	1.0
IZOD Un-Notched Impact (ft-lb / in)	D256	No Break
THERMAL		

Coefficient of Thermal Expansion ($\times 10^{-5}$ in./in./°F)	D696	2.0
Heat Deflection Temp (°F/°C) @ 264 psi	D648	599 / 315
Melting Point (°F / °C)	D3418	649 / 343
Tg Glass Transition Temp (°F / °C)	D3418	289 / 143
Thermal Conductivity (BTU-in / ft ² -hr- °F)	C177	2.4
Flammability Rating	UL94	-
ELECTRICAL		
Dielectric Strength (V / mil) short time, (t) 1/8"	D149	400
Dielectric Constant at 1 KHz	D150	1, Dry 3.5
Dissipation Factor at 1 KHz	D150	1, Dry <0.005
Surface Resistivity (ohm / sq)	D257	10 ¹⁴
Volume Resistivity (ohm / sq)	D257	10 ¹⁴

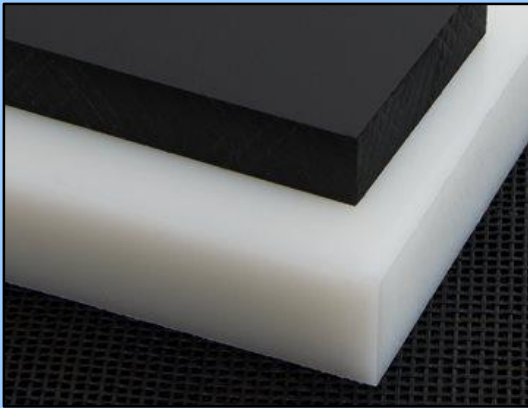
HIGH DENSITY POLYETHYLENE

Manufactured by



PRODUCT OVERVIEW

Mitsubishi Chemical Advanced Materials's High Density Polyethylene (HDPE) is used in a variety of applications and industries where excellent impact resistance, high tensile strength, low moisture absorption and chemical- and corrosion-resistance properties are required.



ADVANTAGES

- Meets FDA / USDA food handling guidelines (natural color)
- Chemical - and corrosion - resistant
- Light-weight
- Low moisture absorption, <0.1
- High impact strength
- Self-lubricating
- Non-staining

APPLICATIONS

- Light duty chain guides
- Orthotic and prosthetic devices
- Secondary containment
- Tanks
- Thermoformed material handling devices
- Water storage
- Wear Rings

PRODUCT COLORS

- Natural
- Black

TYPICAL PROPERTIES OF HIGH DENSITY POLYETHYLENE

General Properties	Test Method ISO / (IEC)	High Density Polyethylene Typical Values
PHYSICAL		
Specific Gravity	ISO 1183	0.96
Water Absorption, 24 hrs (%)	ISO 62	<0.1
MECHANICAL		
Tensile Stress (MPa)	ISO 527	28
Tensile Strain at Break (%)	ISO 527	>50
Flexural Strength (MPa)	ISO 178	27
Flexural Modulus (MPa)	ISO 178	-
Compressive Stress at 1/2/5 % nominal strain (MPa)	ISO 604	12 / 18.5 / 26.5
Hardness, Shore D	ISO 868	62
Coefficient of Friction (Dynamic)	ISO 7148-2	0.15 – 0.30
THERMAL		
Coeff. Of Thermal Expansion (m/[m.K])	-	150 x 10 ⁻⁶
Heat Deflection Temp (°F/°C) @ 1.8 MPa	ISO 75	111 / 44
Flammability Rating	UL-94	HB
ELECTRICAL		
Surface Resistivity (Ohms/sq)	ANSI / ED STM 11.11	>10 ¹²
Volume Resistivity (Ohm-cm)	IEC 60093	>10 ¹⁴
Electric Strength (kV/mm)	IEC 60243-1	45

LOCKS, LATCHES, CATCHES AND HINGES

Manufactured By **Reid**
AN ESSENTRA COMPANY

Reid Supply has different types of **Latches, Catches, and Hinges**. Some examples include; Adjustable Compression Latches, Metal Plates for Magnetic Catches, Metal Torque Hinges. Some featured products are shown below:



Adjustable Compression Latches are IP65 rated and are made from either Chrome or Black Powder Coated Die-Cast Zinc. They offer a 6mm compression and there are 3 cam styles available; either flat, offset or deep. The cam can be used forward or reversed and the latch provides good compression and noise isolation. The 2 fixing sizes available are 20.2mm x 22.2mm and 19.2mm x 22.2mm. Adjustable Compression Latches w/Wing Knob are used for cabinets that require better sealing under vibration. The range comes in a choice of finish and are available in locking and non-locking versions.



Metal Plates for Magnetic Catches provide a support to magnetically connect a catches. They come in various sizes and materials.



Metal Torque Hinges allow the control of the opening and the closure of a door. The torque adjustment can be achieved with the aid of a setting key or with the adjustment of a screw. Heavy Duty Adjustable Torque Hinges have an adjustable holding torque with the aid of a setting key. The hinge articulates and holds a panel in position thus eliminating the need for a gas strut or lid stay. The holding torque is adjusted using a hex setting screw. Adjustable Torque Hinges are operated with a single torque adjustment using the screw. They are used to hold doors or panels in position. The medium hinge is suitable for M4 fixings and the large hinge is suitable for M6 fixings both of which are not supplied.

SpeedE® Screwdriver



Manufactured By

Wiha seeks to make daily life much easier for users with a product assortment of innovative hand tool solutions geared towards user needs. This is why Wiha develops, designs and manufactures products that meet the strictest requirements for quality, functionality, durability and ergonomic design. As a trusted, strategic partner of specialist retailers, Wiha offers a wide range of quality products for the professional segment.



An electric screwing assistant which relieves professionals of bothersome screw-fastening, yet allows them to finish tightening carefully by hand. Ideal for thread screws and delicate screw fastening tasks.

SpeedE® is a true revolution for anyone who works with a screwdriver. With SpeedE®, you are faster, healthier and more efficient while out on jobs.

For more information on our products and availability, please do not hesitate to contact our nearest Pactumax International office, or e-mail us at sales@pactumax.com. We look forward to hearing from you!

Highlights from the next issue of Pactumax Monthly Advanced Product Alert – Calazole PBI, MC501CD R2/R6/R9, S&W Vibration Control Mounts and wiha Screwdriver with bit magazine LiftUp 26one. Stay tuned!