



PACTUMAX

INTERNATIONAL PTE LTD

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Welcome to our new issue of Pactumax Monthly Advanced Product Alert for the Year 2024 – keeping you informed of new product and materials advancements.

We will like to also introduce to you our latest wide range of products available from CarrLane & Reid Supply, etc.

Click on the hyperlink below to access our e-catalogs from our website to view more:

<https://pactumax.com/technical-resources/>

This month's featured items are **Duratron® CU60 PBI** and **SEMITRON® ESD 410C/420**

Duratron® CU60 PBI possesses remarkable engineering properties that hallmarks it as the best performing engineering thermoplastics that is available to the market today. Its heat resistance and mechanical retention properties remains the highest among any unfilled plastic over a temperature of 400°F (205°C).

SEMITRON® ESD 410C is an electrostatic dissipative PEI material that possesses excellent dimensional stability and is able to be used in environments with temperatures up to 410 °F/ 210 °C without degradation.

SEMITRON® ESD 420 is an electrostatic dissipative shapes exhibit high strength and stiffness, and excellent resistivity of a range from 10^6 to 10^9 ohms per square range.

Remember, Pactumax is *GROWING* – we are now your **One-Stop Source for all your materials and products' needs!**

ADVANCED PRODUCT ALERT OF THE MONTH

DURATRON® CU60 PBI

Manufactured by



PRODUCT OVERVIEW

Duratron® CU60 PBI possesses remarkable engineering properties that hallmarks it as the best performing engineering thermoplastics that is available to the market today. Its heat resistance and mechanical retention properties remains the highest among any unfilled plastic over a temperature of 400°F (205°C). Furthermore, its load carrying capabilities and wear resistance properties at very high temperatures are unmatched in the market as compared to other reinforced or unreinforced plastic.

Duratron® CU60 PBI is an unreinforced plastic material that has very clean ionic impurity and does not possess the ability to outgas with the exception of water. These features are very applicable to semiconductor industries that requires vacuum chamber applications. In addition, **Duratron® CU60 PBI** is a popular choice among the ultrasonic measuring equipment industries as the material has excellent ultrasonic transparency which makes it the perfect choice to manufacture parts such as probe tip lenses.

Lastly, **Duratron® CU60 PBI** has excellent thermal insulating properties. When other plastics melt, it does not affect the surface integrity of the **Duratron® CU60 PBI** plastic as it does not stick. All these features are suitable for plastic production and molding equipment industries that manufactures products such as insulator bushings and contact seal.

DURATRON® CU60 PBI



PRODUCT COLORS

- Black

ADVANTAGES

- **Duratron® CU60 PBI** is the highest performing engineering plastic currently available
- Offers the Highest Heat Resistance (Does not Melt) and Mechanical Property Retention over 400°F (205°C) of any unfilled plastic
- Good Wear Resistance and Load Carrying Capabilities at extreme temperatures than any other reinforced or unreinforced engineering plastic

APPLICATIONS

- Wafer Retaining Rings for Gas Plasma Etching
- Vacuum Tips
- Wafer Carriers
- Contact Seals
- Insulator Bushings
- Thermal Isolators
- Guide Rollers

TYPICAL PROPERTIES OF DURATRON® CU60 PBI

General Properties	ASTM or UL TEST	Duratron® CU60 PBI Typical Values
PHYSICAL		
Specific Gravity (g/cm ³)	D792	1.3
Water Absorption, 24hrs (%)	D570	0.4
MECHANICAL		
Tensile Strength (psi)	D638	16,000
Tensile Modulus (psi)	D638	850,000
Tensile Elongation at Break (%)	D638	2
Flexural Strength (psi)	D790	32,000
Flexural Modulus (psi)	D790	950,000
Compressive Strength (psi)	D695	50,000
Hardness Rockwell	D785	E120
IZOD Notched Impact (ft-lb /in)	D256	0.5
THERMAL		
Coefficient of Thermal Expansion (x 10 ⁻⁵ in./in./°F)	E831	1.3
Heat Deflection Temp (°F / °C) @ 264 psi	D648	800 / 427
Glass Transition Temp (°F / °C)	D3418	775 / 413
Max Operating Temp (°F / °C)	-	600 / 316
Thermal Conductivity (BTU-in / ft ² -hr- °F)	F433	2.8
Flammability Rating	UL-94	V-0
ELECTRICAL		
Dielectric Strength (V /mil) short time	D149	550
Dielectric Constant at 1 MHz	D150	3.2
Dissipation Factor at 1 MHz	D150	0.003
Surface Resistivity (ohm /sq) at 50% RH	EOS/ESD S11.11	>10 ¹³
Volume Resistivity	IEC 60093	>10 ¹⁴

SEMITRON® ESD 410C/420

Manufactured by



PRODUCT OVERVIEW

SEMITRON® ESD 410C is an electrostatic dissipative PEI material that possesses excellent dimensional stability and is able to be used in environments with temperatures up to 410 °F/ 210 °C without degradation. In addition, this material has low water absorption, a lowered coefficient of linear thermal expansion as well as it gives low stress for tighter tolerances during machining. **SEMITRON® ESD 420** is an electrostatic dissipative shapes exhibit high strength and stiffness, and excellent resistivity of a range from 10^6 to 10^9 ohms per square range. These materials excelled in environments with high temperature which is ideal for semiconductor markets. In addition, this material does not rely upon atmospheric phenomena (humidity) to activate, nor are surface treatments used to achieve dissipation.

SEMITRON® ESD 410C/420



PRODUCT COLORS

- Black

ADVANTAGES

SEMITRON® ESD 410C

- Excellent Dimension Stability & Surface Quality
- Consistent Electrical Properties

SEMITRON® ESD 420

- High Mechanical Strength
- Easily Machined to Tight Tolerances

APPLICATIONS

- Disk Drive Assembly Fixtures
- Semiconductor/ Electronic Components
- Telecommunication Hardware
- Automotive Equipment

TYPICAL PROPERTIES OF SEMITRON® ESD 410C/420

GENERAL PROPERTIES	ASTM or UL TEST	SEMITRON® ESD 410C Typical Values	SEMITRON® ESD 420 Typical Values
PHYSICAL			
Specific Gravity	D792	1.41	1.34
Water Absorption, 24 hrs (%)	D570	0.30	0.50
MECHANICAL			
Tensile Strength (psi)	D638	9,000	11,500
Tensile Modulus (psi)	D638	850,000	640,000
Tensile Elongation at Yield (%)	D638	-	-
Flexural Strength (psi)	D790	12,000	14,500
Flexural Modulus (psi)	D790	850,000	650,000
Compressive Strength (psi)	D695	19,500	23,800
Hardness, Rockwell	D785	M115	M118
IZOD Notched Impact (ft-lb/in)	D256	0.80	1.00
THERMAL			
Coefficient of Thermal Expansion (µin./in./°F)	E831 (TMA)	18	19.5
Heat Deflection Temperature, (°F/°C) @ 264 psi	D648	410/210	410/210
Glass Transition Temperature (°F/°C)	-	410/210	410/210
Continuous Allowable Service Temp in Air (°F/°C)	-	338/170	340/171
Thermal Conductivity (BTU-in/ft ² -hr-°F)	-	2.45	1.51
Flammability Rating (UL94)	-	V-0	V-0
ELECTRICAL			
Electric Strength (V/mil)	D149	-	-
Dissipation Factor at 1 MHz	D150	0.001	0.266
Surface Resistivity (ohm/sq)	ANSI/ ESD STM 11.11	10 ⁴ to 10 ⁶	10 ⁶ to 10 ⁹
Volume Resistivity (ohm.cm)	D257	-	-

Draw Latch; Material=Steel, Type=Draw Latches & Keepers, Natural, PX-14

Manufactured by



Established in 1948, Reid Supply, a division of Essentra, also known as Reid Tool Supply back in the day, is a premier provider of over 40,000 industrial components to the North American manufacturing market. We offer a comprehensive line of quality industrial components and are well known for our broad range of clamps & work holding products, knobs, handles, & hand wheels, tooling & positioning components, feet, casters & vibration mounts.

Draw Latch; Material=Steel, Type=Draw Latches & Keepers, Natural



- Prolatch Draw & Keepers Latch has a load capacity of 715 lbs. Assemble with Screws: #10; M5.
- Draw latches use a lift-and-catch design to draw two items together using tension.

Draw Latch; Material=Steel, Type=Draw Latches & Keepers, Natural

Overall Height: 0.620 in

Overall Length: 3.840 in

Overall Width: 1.770 in

Color: Natural

Finish: Zinc-Plated

Material: Steel

Mounting Method: Screws: #10; M5

Mount Material: Steel

Plate Material: Steel

Type: Draw Latches & Keepers

Special Offer: Clearance

Stripping Tool

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.

Stripping Tool



Stripping Tool has a cutting function that allows cables to be trimmed to the required length. **Stripping Tool** is equipped with an integrated hand protection for the blade guards to protect the user from injuries as well as preventing the cables within the cables assembly from damage accidentally due to the automatic closing function. In addition, users can skin cables with a range from 0.03 and 16mm² with one set of pliers. The longitudinal stop with adjustable function provides precise handling.

Stripping Tool has a whisper-quiet function as well as a supplied damper that can be inserted into the pliers which reduces recoil and protects the user's wrists from harm while skinning large cables gauges of 6mm² and above.

Stripping Tool has spare blades and exchanged aids housed in the handle to be able to use immediately. Once the handle is locked in place, the stripping pliers saves space and are securely locked for easy transportation.

Application:

For stripping, skinning and trimming cables between 0.03 and 16mm².

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 – TORLON® 5530, SUNLOID® PLATE POLYCARBONATE, Spring Locating Pins (Vlier), Screwdriver with bit magazine LiftUp 25 magnetic (wiha), Stay tuned!