



PACTUMAX

INTERNATIONAL PTE LTD

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Welcome to our new issue of Pactumax Monthly Advanced Product Alert for the Year 2023 – 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 **VESPEL® SP-1 / SP-21** and **ACRYLIC**.

VESPEL® SP-1 / SP-21 is one of the highest performing engineering plastics currently available. VESPEL® operates continuously from cryogenic temperature to 550 °F (288°C), with excursions to 900 °F (482°C).

ACRYLIC is an engineering plastic with good durability, transparency and consistent quality.

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

ADVANCED PRODUCT ALERT OF THE MONTH

VESPEL® SP-1 / SP-21

Manufactured by



PRODUCT OVERVIEW

VESPEL® SP-1 / SP-21 is one of the highest performing engineering plastics currently available. VESPEL® operates continuously from cryogenic temperature to 550 °F (288°C), with excursions to 900 °F (482°C). VESPEL® part consistently exhibit superior performance in a variety of applications requiring low wear and long life in severe environment.

VESPEL® SP-1 / SP-21



PRODUCT COLORS

- Brown

ADVANTAGES

- Excellent Temperature Resistance
- High Wear Resistance
- Dimensionally Stable
- Resistant to Radiation

APPLICATIONS

- Rotary Seal Rings
- Thrust Washers and Discs
- Bushings
- Flanged Bearings
- Plungers

TYPICAL PROPERTIES OF VESPEL® SP-1 / SP-21

General Properties	Test Method or UL Test	VESPEL® SP-1 Typical Values	VESPEL® SP-21 Typical Values
Filler Material	-	Unfilled	15% Graphite
PHYSICAL			
Density (g/cm ³)	D792	1.43	1.51
Water Absorption, 24 hrs @ 73 °F (%)	D570	0.24	0.19
MECHANICAL			
Tensile Strength (psi x 10 ³)	D1708	12.5	9.5
Tensile Modulus (psi)	D1708	-	-
Tensile Elongation (%)	D1708	7.5	4.5
Flexural Strength (psi x 10 ⁵)	D790	0.16	0.16
Flexural Modulus (psi x 10 ⁵)	D790	4.5	5.5
Compressive Strength, 10% strain (psi x 10 ³)	D695	19.3	19.3
Compressive Modulus (psi x 10 ⁵)	D695	3.5	4.2
IZOD Notched Impact (J/m)	D256	42.7	42.7
THERMAL			
Coeff. of Linear Thermal Expansion (x10 ⁻⁶ in./in./°F)	D288	30	27
Heat Deflection Temp (°F/ °C) @ 264 psi	D648	680/360	680/360
Thermal Conductivity (w/m°C)	-	0.35	0.87
ELECTRICAL			
Dielectric Strength (MV/m) Short Time, 2mm Thick	D149	3.20	1.40
Dielectric Constant at 1 MHz	D150	3.55	13.41
Dissipation Factor at 1 MHz	D150	0.0034	0.0106
Volume Resistivity (ohm-cm) at 50% RH	D257	10 ¹⁴ – 10 ¹⁵	10 ¹² – 10 ¹³
MECHANICAL @ 500 °F			
Tensile Strength (psi x 10 ³)	D1708	6	5.5
Tensile Elongation (%)	D1708	6	3
Flexural Strength (psi x 10 ³)	D790	9	9
Flexural Modulus (psi x 10 ⁵)	D790	2.5	3.7

ACRYLIC

PRODUCT OVERVIEW

ACRYLIC is an engineering plastic with good durability, transparency and consistent quality. Other characteristics include clarity, versatility, outstanding performance. Available only in “Clear” colour option.

ACRYLIC



PRODUCT COLORS

- Clear

ADVANTAGES

- Good Transparency
- Alternative to Polycarbonate (PC)
- Does not Contain the potentially Harmful Bisphenol-A Subunits found in Polycarbonate
- Durability, Consistent Quality
- Clarity, Versatility, Outstanding Performance

APPLICATIONS INCLUDE

- Equipment/ Machine Covers
- Used in Sign Industry (Signage)
- Commonly used for Constructing Residential and Commercial Aquariums
- Fabricated Parts requiring Optical Clarity

TYPICAL PROPERTIES OF ACRYLIC

General Properties	ASTM or UL Test	ACRYLIC Typical Values
PHYSICAL		
Specific Gravity (g/cm ³)	ISO 1183	1.19-1.20
Water Absorption, 24 hrs (%)	ISO 62	0.30
MECHANICAL		
Tensile Strength (MPa)	ISO 527	92
Tensile Elongation at Break (%)	ISO 527	-
Flexural Strength (MPa)	ISO 178	-
Flexural Modulus (MPa)	ISO 178	-
Impact Strength – Charpy (Kj.m ⁻²)	ISO 179	-
IZOD Impact Strength (Kj.m ⁻²)	ISO 180/ 1A	-
Rockwell Hardness, M	ISO 2039-2	M100
THERMAL		
Coeff. Of Thermal Expansion (x10 ⁻⁵ cm/cm/ °C)	ASTM D696	6
Vicat Softening Point (°F /°C)	D648	-
Flammability Rating	UL-94	-
OPTICAL PROPERTIES		
Light Transmission (%) (0mm)	ASTM D1003	92
Refractive Index	ISO 489 A	1.49

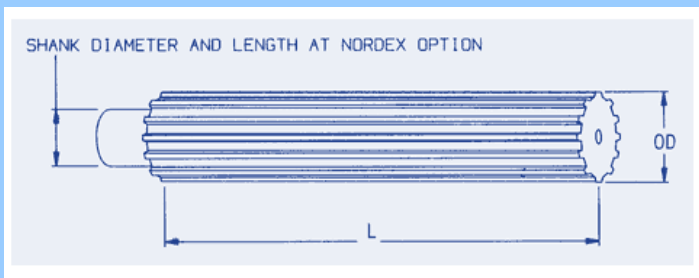
Pulley Stock Metric 3mm, 5mm and 8mm HTD Pitch #FPA-G5-29

Manufactured by



Nordex, incorporated in 1960, designed and manufactured surface mount technology assembly equipment. In 1975, the product line was modified for the manufacture of miniature precision electro-mechanical parts and assemblies. Today, our focus is on fully integrated turnkey subsystems for the medical, laboratory and industrial analytical instruments, factory automation, power transmission, robotics, defense, aerospace and semi-conductor OEM industries.

Pulley Stock Metric 3mm, 5mm and 8mm HTD Pitch #FPA-G5-29



- Material: Aluminum Alloy
- OD TOLERANCES:
 - 1) 3mm pitch 9-27 grooves $+0.002$, 28-52 $+0.003$, 54-100 $+0.004$, 110-160 $+0.005$
 - 2) 5mm pitch 21-32 $+0.003$, 33-62 $+0.004$, 72-112 $+0.005$, 126 $+0.006$
 - 3) 8mm pitch 20-40 $+0.004$, 42-70 $+0.005$, 72-80 $+0.006$

Pulley Stock Metric 3mm, 5mm and 8mm HTD Pitch #FPA-G5-29

- No. of Grooves: 29
- Description Pulley Stock: 3 mm Pitch
- Order Number: FPA-G5-29
- Outside Diameter: 1.060
- Length: 6 Inch
- Pitch Diameter: 1.090
- Thread: 29
- Diameter: 1.1
- Head Diameter: 6.0
- Head Width: 1.1
- Length: Aluminum Alloy

Soft-Faced Hammer Set

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.

Soft-Faced Hammer Set



Soft-Faced Hammer Set with a range of hardness is used in applications in trade & industry. **Soft-Faced Hammer Set** has 8 interchangeable round hammer faces. The heads can be easily change to suit the current task with the use of the hexagonal L-key that comes with the set.

The hammer in the **Soft-Faced Hammer Set** is designed to produce measured individual blows to more fragile materials such as soft timbers, aluminium or plastics. In addition, the hammer can also be used to deliver powerful blows in heavy industries.

The hammer in the **Soft-Faced Hammer Set** is designed and equipped with high-grade hickory hammer handle with a non-slip surface. A box made of robust material is used to house the hammer, hammer faces as well as other spare parts.

- **Standards:** GS tested

- **Contents:**

832-38 Safety soft-head hammer orange/black (hard/medium-soft), 831-3 medium soft hammer face, black 831-9 very hard hammer face, white 833-5 medium hard square hammer face, yellow 833-1 soft square hammer face, blue 352 size 6 hex L-key, long made of chrome-vanadium steel, through hardened, nickel-plated.

- **Application:**

Comprehensive hammer set for all application fields, especially delicate surfaces.

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 – MACOR® MACHINABLE GLASS CERAMIC, SEMITRON® ESD 500, CLM-8-KESA Extruded Hand Knob Swivel Feet (Carr Lane), NUT DRIVER AND BIT SET 1/4" AND 1/2"