## UNITAL® H

## Acetal (POM) Homopolymer

Nytef Plastics, Ltd.

## Message:

UNITAL® Acetal (polyoxy-methylene) offers design engineers a superior blend of strength, stiffness, lubricity, and dimensional stability. These properties, along with inherent machining ease, have made UNITAL one of the most widely used engineering grade thermoplastics. To meet specific application configurations and to maximize production efficiencies, Nytef Plastics offers a broad array of UNITAL Acetal stock shapes. These materials include both homopolymer (DELRIN®) and copolymer unfilled grades as well as PTFE-filled grades for enhanced wear resistance. Nytef also offers an electrically conductive grade of UNITAL Acetal that is used in the microelectronics industry to dissipate static electric charges. Base resin: Delrin 150E Acetal Homopolymer (POM)--Excellent toughness, FDA Compliant

Features Good Dimensional Stability   Good Toughness   Good Toughness   Good Toughness   Good Wear Resistance   High Stiffness   High Stiffness   High Strength   Homopolymer   Low Moisture Absorption   Lubricated   Machinable   Uses Automotive Applications   Bearings   Bushings   Electrical Parts   Electrical Parts   Good Service Applications   Gears   Molds/Dies/Tools   Pump Parts   Valves/Valve Parts   Wear Strip   Agency Ratings   FDA Unspecified Rating   USDA Unspecified Rating   USDA Unspecified Approval	General Information	
Good Wear Resistance     High Stiffness     High Stiffness     High Strength     Homopolymer     Low Moisture Absorption     Lubricated     Machinable     Uses     Automotive Applications     Bearings     Bushings     Electrical Parts     Electrical /Electronic Applications     Fluid Handling     Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Valves/Valv	Features	Good Dimensional Stability
High StiffnessHigh StrengthHomopolymerLow Moisture AbsorptionLubricatedMachinableUsesAutomotive ApplicationsBearingsBushingsElectrical PartsElectrical/Electronic ApplicationsFluid HandlingFood Service ApplicationsGearsMolds/Dies/ToolsPump PartsValves/Valve		Good Toughness
High Strength     Homopolymer     Low Moisture Absorption     Lubricated     Machinable     Uses   Automotive Applications     Bearings     Bushings     Electrical Parts     Fluid Handling     Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip		Good Wear Resistance
HomopolymerLow Moisture AbsorptionLubricatedMachinableUsesAutomotive ApplicationsBearingsBushingsElectrical PartsFlectrical /Electronic ApplicationsFlectrical/Electronic ApplicationsMolds/Dies/ToolsMolds/Dies/ToolsValves/Valve PartsWear StripStripAgency RatingsMachingsLubrication RatingMolds/Dies/Tools		High Stiffness
Low Moisture Absorption Lubricated MachinableUsesAutomotive Applications Bearings Bushings Electrical Parts Electrical/Electronic Applications Fluid Handling Food Service Applications Gears Molds/Dies/Tools Pump Parts Valves/Valve Parts Valves/Valve Parts Wear StripAgency RatingsDA Unspecified Rating USDA JA USDA Unspecified Rating USDA JA USDA Unspecified Approval		High Strength
Lubricated MachinableUsesAutomotive ApplicationsBearingsBearingsBushingsElectrical PartsElectrical/Electronic ApplicationsElectrical/Electronic ApplicationsFluid HandlingFood Service ApplicationsGearsMolds/Dies/ToolsPump PartsValves/Valve PartsValves/Valve PartsUsars StripAgency RatingsFDA Unspecified Rating USDA JA USDA Unspecified Approval		Homopolymer
Machinable     Uses   Automotive Applications     Bearings   Bushings     Electrical Parts   Electrical/Electronic Applications     Fluid Handling   Food Service Applications     Gears   Molds/Dies/Tools     Pump Parts   Valves/Valve Parts     Valves/Valve Parts   Valves/Valve Parts     Valves/Valve Parts   USDA 3A     USDA JA   USDA JA		Low Moisture Absorption
Uses   Automotive Applications     Bearings   Bearings     Bushings   Electrical Parts     Electrical/Electronic Applications   Fluid Handling     Food Service Applications   Gears     Molds/Dies/Tools   Pump Parts     Valves/Valve Parts   Wear Strip     Agency Ratings   FDA Unspecified Rating     NSF Unspecified Rating   NSF Unspecified Rating     USDA JA   USDA JA     USDA Unspecified Approval   USDA JA		Lubricated
Bearings     Bushings     Electrical Parts     Electrical/Electronic Applications     Fluid Handling     Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip     Strip     Agency Ratings     FDA Unspecified Rating     NSF Unspecified Rating     USDA 3A     USDA JA     USDA JA		Machinable
Bearings     Bushings     Electrical Parts     Electrical/Electronic Applications     Fluid Handling     Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Valves/Valve Parts     Valves/Interpreter     Valves/Interpreter     Valves/Valve Parts		
Bushings     Electrical Parts     Electrical/Electronic Applications     Fluid Handling     Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip     Strip     Agency Ratings     FDA Unspecified Rating     USDA JA     USDA JA     USDA JA	Uses	Automotive Applications
Electrical Parts     Electrical/Electronic Applications     Fluid Handling     Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip     Spot Service Applicationg     MSF Unspecified Rating     NSF Unspecified Rating     USDA 3A     USDA Unspecified Approval		Bearings
Electrical/Electronic Applications     Fluid Handling     Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip     SPA     MSF Unspecified Rating     USDA 3A     USDA Unspecified Approval		Bushings
Fluid Handling     Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip     FDA Unspecified Rating     NSF Unspecified Rating     USDA 3A     USDA Unspecified Approval		Electrical Parts
Food Service Applications     Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip     Service Applications     MSF Unspecified Rating     USDA 3A     USDA Unspecified Approval		Electrical/Electronic Applications
Gears     Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip     Agency Ratings     FDA Unspecified Rating     NSF Unspecified Rating     USDA 3A     USDA Unspecified Approval		Fluid Handling
Molds/Dies/Tools     Pump Parts     Valves/Valve Parts     Wear Strip     Agency Ratings     FDA Unspecified Rating     NSF Unspecified Rating     USDA 3A     USDA Unspecified Approval		Food Service Applications
Pump Parts     Valves/Valve Parts     Wear Strip     Agency Ratings   FDA Unspecified Rating     NSF Unspecified Rating     USDA 3A     USDA Unspecified Approval		Gears
Valves/Valve Parts Wear StripAgency RatingsFDA Unspecified Rating NSF Unspecified Rating USDA 3A USDA Unspecified Approval		Molds/Dies/Tools
Wear StripAgency RatingsFDA Unspecified RatingNSF Unspecified RatingUSDA 3AUSDA Unspecified Approval		Pump Parts
Agency RatingsFDA Unspecified RatingNSF Unspecified RatingUSDA 3AUSDA Unspecified ApprovalUSDA Unspecified Approval		Valves/Valve Parts
NSF Unspecified Rating USDA 3A USDA Unspecified Approval		Wear Strip
NSF Unspecified Rating USDA 3A USDA Unspecified Approval		
USDA 3A USDA Unspecified Approval	Agency Ratings	FDA Unspecified Rating
USDA Unspecified Approval		
Forms Preformed Parts		USDA Unspecified Approval
Forms Preformed Parts		
	Forms	
Rod		Rod

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.42	g/cm³	ASTM D792
Water Absorption			ASTM D570
24 hr	0.25	%	
Saturation	0.90	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	94		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3100	MPa	ASTM D638
Tensile Strength	66.2 to 75.8	MPa	ASTM D638
Tensile Elongation (Break)	30 to 50	%	ASTM D638
Flexural Modulus	3240	MPa	ASTM D790
Flexural Strength	98.6	MPa	ASTM D790
Compressive Strength	110	MPa	ASTM D695
Coefficient of Friction	0.20		
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	64	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	125	°C	ASTM D648
Continuous Use Temperature	85.0	°C	Internal Method
Peak Melting Temperature	175	°C	ASTM D3418
CLTE - Flow	1.2E-4	cm/cm/°C	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257
Dielectric Strength <sup>1</sup>	20	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.70		
1 MHz	3.70		
Dissipation Factor (60 Hz)	5.0E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating	НВ		UL 94
NOTE			
1.	Method A (Short-Time)		

1.

Method A (Short-Time)

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