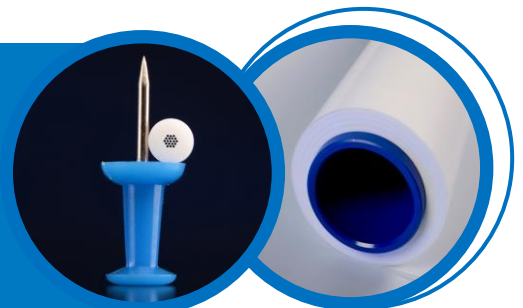


dalconTM PHYSICAL PROPERTIES (Typical)

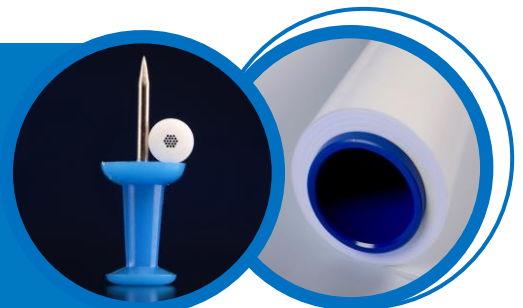
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dalcon™ 001

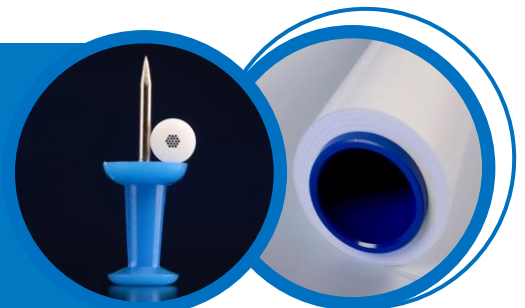
Issued 09/09/16		PHYSICAL PROPERTIES (Typical)		Page 1 of 2
Ingredients: 100% Virgin PTFE		Filler/Pigment: None		Colour: White (Natural)
MECHANICAL PROPERTIES		Value	Units	Standard
Tensile Strength	(Molding Direction)	2175 - 5800	psi	ASTM D638
Elongation at Break	(Molding Direction)	150 - 400	%	ASTM D638
Density		2.13 – 2.19	g/cc	ASTM D792
Hardness		57 - 70	Shore D	ASTM D2240
Haze		80 - 85	%	ASTM D1003
Deformation under load	@ 1 Hr , 73°F, 2060psi @ 24 Hr , 73°F, 2060psi @ Permanent Deformation @ 1Hr, 300°F, 725psi	11.8 14.3 7.9 10.0	% % % %	ASTM D621
Compressive Modulus	@ 0.2% Offset, 73°F	87000 - 101500	psi	ASTM D621
Flexural Yield Strength	@ 0.2% Offset, 73°F	-	psi	ASTM D790
Flexural Modulus	@ 73°F	100000	psi	ASTM D790
Compressive Strength	@ 0.2% Offset, 73°F @ 0.2% Offset, 300°F	- -	psi psi	ASTM D695
ELECTRICAL PROPERTIES		Value	Units	Standard
Dielectric Strength	@ Air (Tape) @ Oil (Extrusion/Molding)	1525 - 2030 890/610	V/mil V/mil	ASTM D149
Proof Test	(Dielectric Strength)	610(Pass)	V/mil	BS6564 (E)
Dielectric Constant	@ 60 Hz @ 10 ⁶ Hz	2.1 2.1	- -	ASTM D150
Dissipation Factor	@ 60 Hz @ 10 ⁶ Hz	<0.0003 <0.0003	- -	ASTM D150
Resistivity	@ Surface @ Volume	10 ¹⁷ 10 ¹⁸	Ω Ω cm	ASTM D257
THERMAL PROPERTIES		Value	Units	Standard
Point of Fusion DSC		620	°F	ASTM D3417
Max. Working Temperature		500	°F	-
Max. Working Temperature	@ Short Periods	570	°F	-
Min. Working Temperature		-390	°F	-
Thermal Conductivity	@ Molding Direction (MD)	1.66	Btu in/(ft ² h °F)	ASTM C177
Coefficient of Linear Thermal Expansion TMA(73 - 390°F)	@ Moulding Direction(MD)	6.7	10 ⁻⁵ /°F	ASTM D696
Flammability		Pass	-	UL94V(0)
Flash Point		986	°F	ASTM D1929
Limiting Oxygen Index		>95	%	ASTM D2863
WEAR PROPERTIES		Value	Units	Standard
Coefficient of Friction	@ Dry sliding @ Static @ Dynamic	- 0.08 0.06	- - -	ASTM D1894

The above properties are typical and are only intended to be used as a guide



dalconTM 001

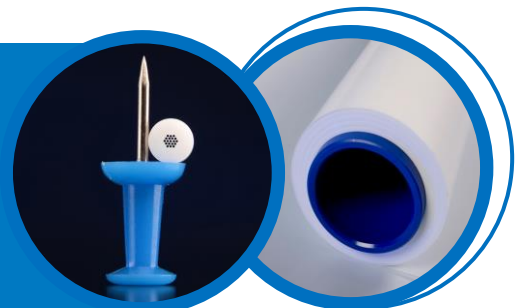
<i>Issued 21/04/16</i>	PHYSICAL PROPERTIES (Typical)	Page 2 of 2
Ingredients: 100% Virgin PTFE	Filler/Pigment: None	Colour: White (Natural)
CHEMICAL RESISTANCE		
<p>The strength of the carbon – fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, and some fluorine compounds at elevated temperatures.</p> <p>Some Fluorinated Hydrocarbons (refridgerants) cause reversible swelling i.e. Tetrafluorodichloroethane Frigen 21, giving a 9.6% weight increase.</p>		
APPLICATIONS & INDUSTRIES		
<p>General: The static and dynamic friction coefficient are numerically equal, Consequently no “Stick Slip” occurs.</p> <p>Chemical: Dynamic & shaft seals. Pipes & tubing for carrying chemicals. Seats & gaskets. Flat gaskets are used to seal flanges in pipelines.</p> <p>Construction: Bridge bearings. Slide bearings.</p> <p>Electrical: Communications, radio & television engineering, cable insulation. Electrical plant construction & electronics industry (connectors & terminals). General electrical equipment (PTFE excellent electrical insulating material). Power plant installations (switchgear).</p> <p>Engineering: Anti-friction bearing cages & bearing plates. Bearing and bushes. Diaphragm pumps, Film bearings, Multi-layer composite bearings. Fabric bearings. Laboratory equipment. Measuring & control technology. Pipe supports. Expansion bellows. Glandless valves & pumps, valves & pumps, valve seats. Piston rings in hydraulic systems. Piston rod packing used in compressor plunger pumps & valves.</p> <p>Food: Dynamic & shaft seals (used in the food processing industry). Linings & coatings (fertiliser plant & food industry line equipment).</p>		
The above properties are typical and are only intended to be used as a guide		



dalconTM 006

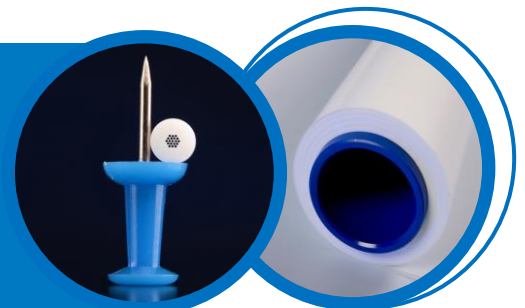
Issued 02/04/07		PHYSICAL PROPERTIES (Typical)		Page 1 of 2
Ingredients: 75% Virgin PTFE Filler/Pigment: 25% Glass Fibre (by weight) Colour: Off White				
MECHANICAL PROPERTIES		Value	Units	Standard
Tensile Strength	(Molding Direction)	1595 - 2175	psi	ASTM D638
Elongation at Break	(Molding Direction)	120 - 270	%	ASTM D638
Density		2.19 – 2.27	g/cc	ASTM D792
Hardness		64 - 68	Shore D	ASTM D2240
Deformation under load	@ 1 Hr , 73°F, 2060psi	9.0	%	ASTM D621
	@ 24 Hr , 73°F, 2060psi	12.4	%	
	@ Permanent Deformation	6.4	%	
	@ 1Hr, 300 °F , 725psi	9.2	%	
Flexural Yield Strength	@ 0.2% Offset, 73°F	800	psi	ASTM D790
Flexural Modulus	@ 73°F	145000	psi	ASTM D790
Compressive Strength	@ 0.2% Offset, 73°F	1044	psi	ASTM D695
	@ 0.2% Offset, 300 °F	260	psi	
ELECTRICAL PROPERTIES		Value	Units	Standard
Dielectric Strength	@ Air	330	V/mil	ASTM D149
	@ Oil	870	V/mil	
Proof Test	(Dielectric Strength)	-	V/mil	BS6564 (E)
Dielectric Constant	@ 60 Hz	2.63	-	ASTM D150
	@ 10 ⁶ Hz	2.85	-	
Dissipation Factor	@ 60 Hz	0.0718	-	ASTM D150
	@ 10 ⁶ Hz	0.0028	-	
Resistivity	@ Surface	>10 ¹⁷	Ω	ASTM D257
	@ Volume	>10 ¹⁸	Ω cm	
THERMAL PROPERTIES		Value	Units	Standard
Point of Fusion DSC		620	°F	ASTM D3417
Max. Working Temperature		500	°F	-
Max. Working Temperature	@ Short Periods	570	°F	-
Min. Working Temperature		-390	°F	-
Thermal Conductivity	@ Moulding Direction (MD)	2.84	Btu in/(ft ² h °F)	ASTM C177
Coefficient of Linear Thermal Expansion TMA(73 - 390 °F)	@ Molding Direction (MD)	277	10 ⁻⁶ / °F	ASTM E831
	@ Right Angles to MD	183	10 ⁻⁶ / °F	
Flammability		-	-	UL94V(0)
Flash Point		1160	°F	ASTM D1929
Limiting Oxygen Index		98 - 100	%	ASTM D2863
WEAR PROPERTIES		Value	Units	Standard
Coefficient of Friction	@ Dry sliding	-	-	ASTM D1894
	@ Static	-	-	
	@ Dynamic	-	-	

The above properties are typical and are only intended to be used as a guide



dalconTM 006

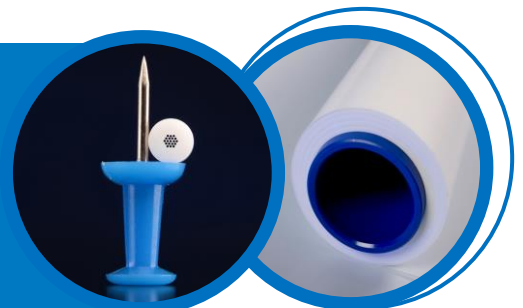
<i>Issued 02/04/07</i>	PHYSICAL PROPERTIES (Typical)	Page 2 of 2
Ingredients: 75% Virgin PTFE Filler/Pigment: 25% Glass Fibre (by weight) Colour: Off White		
CHEMICAL RESISTANCE		
<p>The strength of the carbon – fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, and some fluorine compounds at elevated temperatures. Resistant to organic solvents.</p> <p>This Compound has a fair resistance to the following chemicals: Ammonium hydroxide, Bromine, Chromic acid, Hydroboric acid, Hydrochloric acid, Hydrocyanic acid, Nitric acid (0 – 50%), Phenol, Sodium hydroxide.</p> <p>This compound has an unsatisfactory resistance to the following chemicals: Fluorosilicic acid, Hydrofluoric acid, Hydrogen sulphide (solution), Sodium silicate.</p>		
APPLICATIONS & INDUSTRIES		
<p>General: 25% Glass fibre is the most widely used filler. It improves the creep resistance, compressive strength, rigidity, and wear of PTFE, both at low & high temperatures. It is chemically stable (except to strong alkalis & hydrochloric acid – HF). It improves the wear resistance properties.</p> <p>Chemical: Dynamic & shaft seals. Seals & gaskets. Flat gaskets are used to seal flanges in pipelines.</p> <p>Construction: Bridge bearings. Slide bearings.</p> <p>Electrical: None</p> <p>Engineering: Anti-friction bearing cages & bearing plates. Bearing, bushes, shaft bearings / seals (in combustion engines). Chain tension slide bearings, Film bearings, Multi-layer composite bearings. Laboratory equipment. Measuring & control technology. Pipe supports, Glandless valves & pumps, valve seats. Piston rings in hydraulic systems. Piston rod packings used in compressor plunger pumps & valves.</p> <p>Food: None.</p>		
The above properties are typical and are only intended to be used as a guide		



dalconTM 018

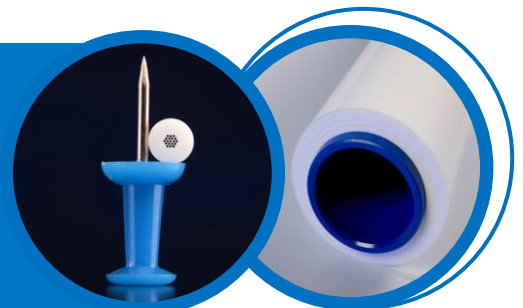
Issued 01/07/16		PHYSICAL PROPERTIES (Typical)		Page 1 of 2
Ingredients: 85% Virgin PTFE Filler/Pigment: 15% Graphite (by weight) Colour: Dark Grey				
MECHANICAL PROPERTIES		Value	Units	Standard
Tensile Strength	(Molding Direction)	1957 - 3625	psi	ASTM D638
Elongation at Break	(Molding Direction)	120 - 250	%	ASTM D638
Density		2.10 – 2.18	g/cc	ASTM D792
Hardness		65 - 67	Shore D	ASTM D2240
Deformation under load	@ 1 Hr , 73°F, 2060psi @ 24 Hr , 73°F, 2060psi @ Permanent Deformation @ 1Hr, 300°F, 725psi	- - - -	% % % %	ASTM D621
Flexural Yield Strength	@ 0.2% Offset, 73°F	-	psi	ASTM D790
Flexural Modulus	@ 73°F	-	psi	ASTM D790
Compressive Strength		925 - 1067	psi	ASTM D695
ELECTRICAL PROPERTIES		Value	Units	Standard
Dielectric Strength		26 - 51	V/mil	AST D149
Proof Test	(Dielectric Strength)	-	V/mil	BS6564 (E)
Dielectric Constant	@ 60 Hz @ 10 ⁶ Hz	- -	- -	ASTM D150
Dissipation Factor	@ 60 Hz @ 10 ⁶ Hz	- -	- -	ASTM D150
Resistivity	@ Surface @ Volume	10 ¹² 10 ¹¹	Ω Ω cm	ASTM D257
THERMAL PROPERTIES		Value	Units	Standard
Point of Fusion DSC		620	°F	ASTM D3417
Max. Working Temperature		500	°F	-
Max. Working Temperature	@ Short Periods	570	°F	-
Min. Working Temperature		-390	°F	-
Thermal Conductivity	@ Molding Direction (MD)	5.41	Btu in/(ft ² h °F)	ASTM C177
Coefficient of Linear Thermal Expansion TMA(73 - 300°F)	@ Molding Direction (MD) @ Right Angles to MD	- - -	- 10 ⁻⁶ /°F 10 ⁻⁶ /°F	ASTM E831
Flammability		-	-	UL94V(0)
Flash Point		1160	°F	ASTM D1929
Limiting Oxygen Index		-	%	ASTM D2863
WEAR PROPERTIES		Value	Units	Standard
Coefficient of Friction	@ Dry sliding @ Static @ Dynamic	- - -	- - -	ASTM D1894

The above properties are typical and are only intended to be used as a guide



dalconTM 018

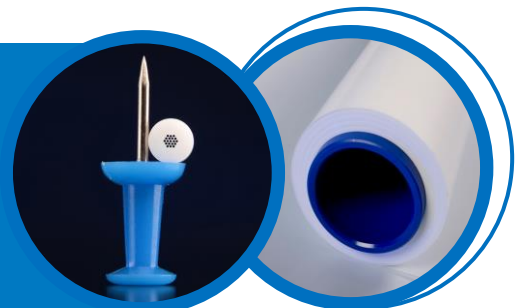
<i>Issued 01/07/16</i>	PHYSICAL PROPERTIES (Typical)	Page 2 of 2
Ingredients: 85% Virgin PTFE Filler/Pigment: 15% Graphite (by weight) Colour: Dark Grey		
CHEMICAL RESISTANCE		
The strength of the carbon – fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, some fluorine compounds & halogen gases at elevated temperatures.		
APPLICATIONS & INDUSTRIES		
<p>General: Graphite filler improves the sliding properties & thermal conductivity of PTFE and has one of the lowest coefficient of frictions. It has low wear in water and is a good bearing material on soft metals & in high speed contact.</p> <p>Chemical: Dynamic & shaft seals.</p> <p>Construction: Bridge bearings. Slide bearings.</p> <p>Electrical: None</p> <p>Engineering: Anti-friction bearing cages & bearing plates. Bearing, bushes, shaft bearings / seals (in combustion engines). Film bearings, Multi-layer composite bearings. Fabric bearings. Laboratory equipment. Measuring & control technology. Pipe supports. Expansion bellows. Glandless valves & pumps, valves & pumps, valve seats. Piston rings in hydraulic systems. Piston rod packings used in compressor plunger pumps & valves.</p> <p>Food: None.</p>		
The above properties are typical and are only intended to be used as a guide		



dalcon™ 020

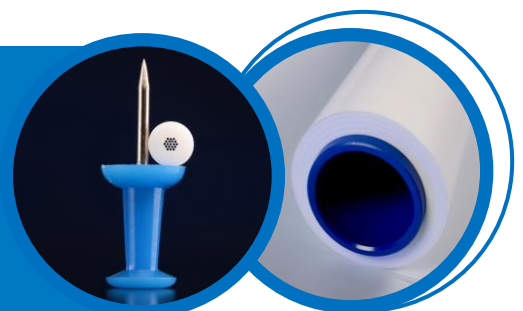
Issued 18/05/16		PHYSICAL PROPERTIES (Typical)		Page 1 of 2
Ingredients: Virgin PTFE Filler/Pigment: Carbon (Anti-Static) Colour: Black				
MECHANICAL PROPERTIES		Value	Units	Standard
Tensile Strength	(Molding Direction)	2900 - 5000	psi	ASTM D638
Elongation at Break	(Molding Direction)	150 - 350	%	ASTM D638
Density		2.13 - 2.19	g/cc	ASTM D792
Hardness		57 - 64	Shore D	ASTM D2240
Deformation under load	@ 1 Hr , 73°F, 2060psi @ 24 Hr , 73°F, 2060psi @ Permanent Deformation @ 1Hr, 300°F, 725psi	Similar to dalcon™ 001	% % % %	ASTM D621
Flexural Yield Strength	@ 0.2% Offset, 73°F	-	psi	ASTM D790
Flexural Modulus	@ 73°F	dalcon™ 001	psi	ASTM D790
Compressive Strength	@ 0.2% Offset, 73°F @ 0.2% Offset, 300°F	- -	psi psi	ASTM D695
ELECTRICAL PROPERTIES		Value	Units	Standard
Dielectric Strength	@ Air (Tape) @ Oil (Extrusion/Molding)	- -	V/mil V/mil	ASTM D149
Proof Test	(Dielectric Strength)	-	V/mil	BS6564 (E)
Dielectric Constant	@ 60 Hz @ 10 ⁶ Hz	- -	- -	ASTM D150
Dissipation Factor	@ 60 Hz @ 10 ⁶ Hz	- -	- -	ASTM D150
Resistivity	@ Surface @ Volume	1 x 10 ⁶ 2.6 x 10 ⁵	Ω Ω cm	ASTM D257
Conductivity:				
Electrical Resistance	per 2 inch	0 - 50	K Ω	
Electrical Conductivity	per 1 x 10 inch	0 - 40	M Ω	
THERMAL PROPERTIES		Value	Units	Standard
Point of Fusion DSC		620	°F	ASTM D3417
Max. Working Temperature		500	°F	-
Max. Working Temperature	@ Short Periods	570	°F	-
Min. Working Temperature		-390	°F	-
Thermal Conductivity	@ Molding Direction (MD)	1.66	Btu in/(ft ² h °F)	ASTM C177
Coefficient of Linear Thermal Expansion TMA(73 - 390°F)	@ Molding Direction (MD) @ Right Angles to MD	288 306	10 ⁻⁶ /°F 10 ⁻⁶ /°F	ASTM E831
Flammability		-	-	UL94V(0)
Flash Point		986	°F	ASTM D1929
Limiting Oxygen Index		>95	%	ASTM D2863
WEAR PROPERTIES		Value	Units	Standard
Coefficient of Friction	@ Dry sliding @ Static @ Dynamic	- 0.08 0.06	- - -	ASTM D1894

The above properties are typical and are only intended to be used as a guide



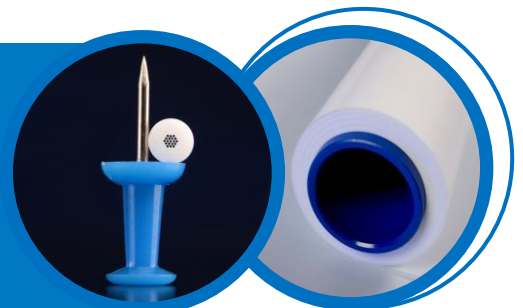
dalcon™ 020

<i>Issued 18/05/16</i>	PHYSICAL PROPERTIES (Typical)	Page 2 of 2
Ingredients: Virgin PTFE Filler/Pigment: Carbon (Anti-Static) Colour: Black		
CHEMICAL RESISTANCE		
<p>The strength of the carbon – fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, and some fluorine compounds at elevated temperatures.</p> <p>Some Fluorinated Hydrocarbons (refrigerants) cause reversible swelling i.e. Teirafuorodichloroethane Frigen 21, giving a 9.6% weight increase.</p>		
APPLICATIONS & INDUSTRIES		
<p>General: The static and dynamic friction coefficient are numerically equal, consequently no ‘Stick Slip’ occurs.</p> <p>Chemical: None.</p> <p>Construction: None.</p> <p>Electrical: Ideal for Anti-Static applications. Anti-Static Hose Linings. Anti-Static Diaphragms.</p> <p>Engineering: None.</p> <p>Food: None.</p>		
The above properties are typical and are only intended to be used as a guide		



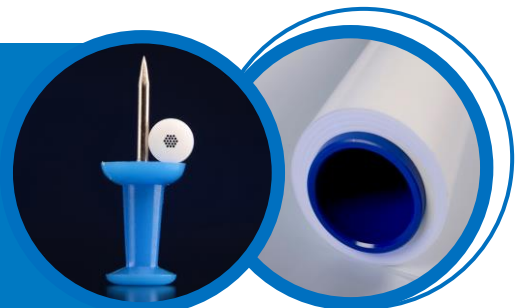
dalcon™ 021

Issued 02/04/07		PHYSICAL PROPERTIES (Typical)		Page 1 of 2
Ingredients: 75% Virgin PTFE Filler/Pigment: 25% Carbon Coke (by weight) Colour: Black				
MECHANICAL PROPERTIES		Value	Units	Standard
Tensile Strength	(Molding Direction)	1740 - 3625	psi	ASTM D638
Elongation at Break	(Molding Direction)	50 - 250	%	ASTM D638
Density		2.05 - 2.13	g/cc	ASTM D792
Hardness		70 - 72	Shore D	ASTM D2240
Deformation under load	@ 1 Hr , 73°F, 2060psi	4.8	%	ASTM D621
	@ 24 Hr , 73°F, 2060psi	6.6	%	
	@ Permanent Deformation	-	%	
	@ 1Hr, 300°F, 725psi	6.6	%	
Flexural Yield Strength	@ 0.2% Offset, 73°F	1493	psi	ASTM D790
Flexural Modulus	@ 73°F	158050	psi	ASTM D790
Compressive Strength	@ 0.2% Offset, 73°F	1328	psi	ASTM D695
	@ 0.2% Offset, 300°F	333	psi	
ELECTRICAL PROPERTIES		Value	Units	Standard
Dielectric Strength	@ Air	-	V/mil	ASTM D149
	@ Oil	-	V/mil	
Proof Test	(Dielectric Strength)	-	V/mil	BS6564 (E)
Dielectric Constant	@ 60 Hz	-	-	ASTM D150
	@ 10 ⁶ Hz	-	-	
Dissipation	@ 60 Hz	-	-	ASTM D150
	@ 10 ⁶ Hz	-	-	
Resistivity	@ Surface	-	Ω	ASTM D257
	@ Volume	-	Ω cm	
THERMAL PROPERTIES		Value	Units	Standard
Point of Fusion DSC		620	°F	ASTM D3417
Max. Working Temperature		500	°F	-
Max. Working Temperature	@ Short Periods	570	°F	-
Min. Working Temperature		-390	°F	-
Thermal Conductivity	@ Molding Direction (MD)	4.02	Btu in/(ft ² h °F)	ASTM C177
Coefficient of Linear Thermal Expansion TMA(73 - 390°F)	@ Molding Direction (MD)	-	10 ⁻⁶ /°F	ASTM E831
	@ Right Angles to MD	-	10 ⁻⁶ /°F	
Flammability		-	-	UL94V(0)
Flash Point		1160	°F	ASTM D1929
Limiting Oxygen Index		98 - 100	%	ASTM D2863
WEAR PROPERTIES		Value	Units	Standard
Coefficient of Friction	@ Dry sliding	-	-	ASTM D1894
	@ Static	-	-	
	@ Dynamic	-	-	
The above properties are typical and are only intended to be used as a guide				



dalconTM 021

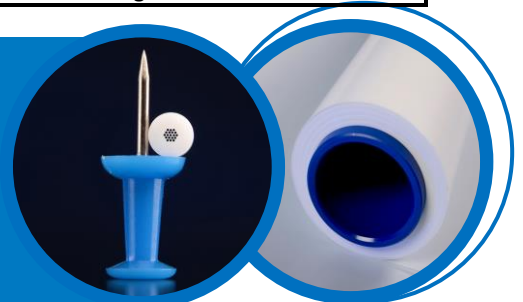
<i>Issued 02/04/07</i>	PHYSICAL PROPERTIES (Typical)	Page 2 of 2
Ingredients: 75% Virgin PTFE Filler/Pigment: 25% Carbon Coke (by weight) Colour: Black		
CHEMICAL RESISTANCE		
<p>The strength of the carbon – fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, and some fluorine compounds halogen glass at elevated temperatures.</p> <p>Carbon/Coke is a good inert filter, except in oxidising environments where glass performs better.</p> <p>Resistant to hydrofluoric acid.</p>		
APPLICATIONS & INDUSTRIES		
<p>General: Carbon/Coke (soft) filler is good in dry running conditions, adds to the creep resistance, increases the hardness and raises the thermal conductivity of PTFE. Carbon/Coke (soft) compounds have good wear properties, but has low tool wear during machining, thus allowing machining to very close tolerances. Carbon/Coke (soft) compounds have some electrical conductivity and are therefore antistatic. Carbon filled compounds when combined with graphite, have excellent wear properties. The combination of the above properties make carbon/graphite compounds the preferred material for non-lubricated piston rings.</p> <p>Chemical: Dynamic & shaft seals. Seals & gaskets. Flat gaskets are used to seal flanges in pipelines.</p> <p>Construction: Bridge bearings. Slide bearings.</p> <p>Electrical: None</p> <p>Engineering: Anti-friction bearing cages & bearing plates. Bearings, bushes, shaft bearings / seals (in combustion engines). Film bearings. Multi-layer composite bearings. Fabric bearings. Laboratory equipment. Measuring & Control technology. Pipe supports. Expansion bellow. Glandless valves & pumps. Valve seats. Piston rings in hydraulic systems and compressors. Piston rod packing used in compressor plunger pumps & valves.</p> <p>Food: None.</p>		
The above properties are typical and are only intended to be used as a guide		



dalconTM 025

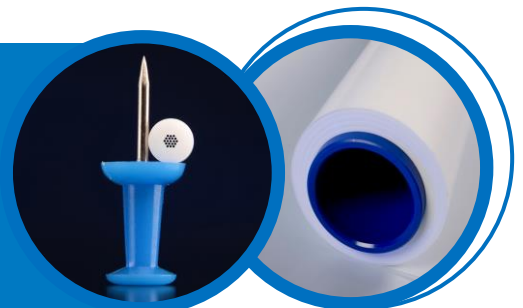
<i>Issued 02/04/07</i>		PHYSICAL PROPERTIES (Typical)		Page 1 of 2
Ingredients: 75% Virgin PTFE Filler/Pigment: 25% Glass Fibre, Blue (by weight) Colour: Blue				
MECHANICAL PROPERTIES		Value	Units	Standard
Tensile Strength	(Molding Direction)	1595 - 2175	psi	ASTM D638
Elongation at Break	(Molding Direction)	120 - 270	%	ASTM D638
Density		2.19 - 2.27	g/cc	ASTM D792
Hardness		64 - 68	Shore D	ASTM D2240
Deformation under load	@ 1 Hr , 73°F, 2060psi @ 24 Hr , 73°F, 2060psi @ Permanent Deformation @ 1Hr, 300°F, 725psi	9.0 12.4 6.4 9.2	% % % %	ASTM D621
Flexural Yield Strength	@ 0.2% Offset, 73°F	800	psi	ASTM D790
Flexural Modulus	@ 73°F	145000	psi	ASTM D790
Compressive Strength	@ 0.2% Offset, 73°F @ 0.2% Offset, 300°F	1253 260	psi psi	ASTM D695
Gasket Constants	@ 73°F (1/16" Thick) Gb a Gs	2026 0.157 150.71	psi - psi	Proposed ASTM Draft N°9
Gasket Constants obtained from ROTT test procedure documented in the proposed ASTM Draft N°9 of the "Standard Test Method for Gasket Constants to Bolted Joint Design".				
ELECTRICAL PROPERTIES		Value	Units	Standard
Dielectric Strength	@ Air @ Oil	330 870	V/mil V/mil	ASTM D149
Proof Test	(Dielectric Strength)	-	V/mil	BS6564 (E)
Dielectric Constant	@ 60 Hz @ 10 ⁶ Hz	2.63 2.85	- -	ASTM D150
Dissipation	@ 60 Hz @ 10 ⁶ Hz	0.0178 0.0028	- -	ASTM D150
Resistivity	@ Surface @ Volume	10 ¹⁷ 10 ¹⁸	Ω Ω cm	ASTM D257
THERMAL PROPERTIES		Value	Units	Standard
Point of Fusion DSC		620	°F	ASTM D3417
Max. Working Temperature		500	°F	-
Max. Working Temperature	@ Short Periods	570	°F	-
Min. Working Temperature		-390	°F	-
Thermal Conductivity	@ Moulding Direction (MD)	2.84	Btu in/(ft ² h °F)	ASTM C177
Coefficient of Linear Thermal Expansion TMA(73 - 390°F)	@ Moulding Direction (MD) @ Right Angles to MD	277 183	10 ⁻⁶ /°F 10 ⁻⁶ /°F	ASTM E831
Flammability		-	-	UL94V(0)
Flash Point		1160	°F	ASTM D1929
Limiting Oxygen Index		98 - 100	%	ASTM D2863
WEAR PROPERTIES		Value	Units	Standard
Coefficient of Friction	@ Dry sliding @ Static @ Dynamic	- - -	- - -	ASTM D1894

The above properties are typical and are only intended to be used as a guide



dalcon™ 025

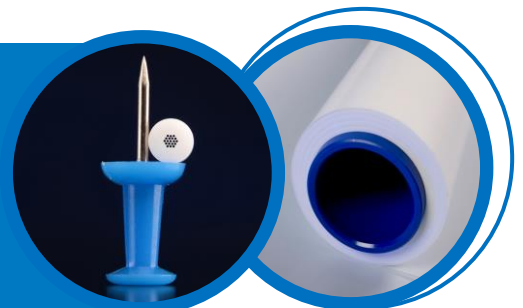
<i>Issued 02/04/07</i>	PHYSICAL PROPERTIES (Typical)	Page 2 of 2
Ingredients: 75% Virgin PTFE Filler/Pigment: 25% Glass Fibre, Blue (by weight) Colour: Blue		
CHEMICAL RESISTANCE		
<p>The strength of the carbon – fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, and some fluorine compounds at elevated temperatures. Resistant to organic solvents.</p> <p>This compound has a fair resistance to the following chemicals: Ammonium hydroxide, Bromine, Chromic acid, Hydroboric acid, Hydrochloric acid, Hydrocyanic acid, Nitric acid (0- 50%), Phenol, Sodium hydroxide.</p> <p>This compound has an unsatisfactory resistance to the following chemicals: Fluorosilicic acid, Hydrofluoric acid, Hydrogen sulphide (solution). Sodium silicate.</p>		
APPLICATIONS & INDUSTRIES		
<p>General: 25% Glass fibre the most widely used filler. It improves the creep resistance, compressive strength, rigidity, and wear of PTFE, both at low & high temperatures. It is chemically stable (except to strong alkalis & hydrochloric acid – HF). 25% glass filler improves the wear resistance properties of PTFE.</p> <p>Chemical: Dynamic & shaft seals. Seals & gaskets. Flat gaskets are used to seal flanges in pipelines.</p> <p>Construction: Bridge bearings. Slide bearings.</p> <p>Electrical: None</p> <p>Engineering: Anti-friction bearing cages & bearing plates. Bearings, bushes, shaft bearings / seals (in combustion engines). Chain tension slide bearings, Film bearings. Multi – layer composite bearings. Laboratory equipment. Measuring & Control technology. Pipe supports. Glandless valves & pumps. Valve seats. Piston rings in hydraulic systems. Piston rod packing used in compressor plunger pumps & valves.</p> <p>Food: None.</p>		
The above properties are typical and are only intended to be used as a guide		



dalconTM 086

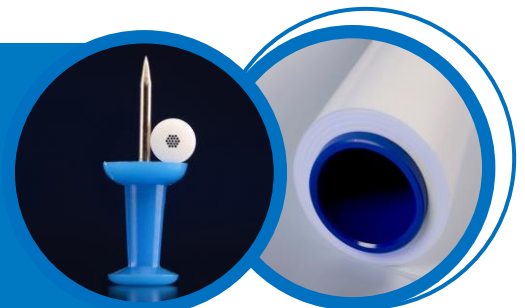
Issued 21/04/16		PHYSICAL PROPERTIES (Typical)		Page 1 of 2
Ingredients: 100% Virgin PTFE Modified Polymer Filler/Pigment: None Colour: White (Natural)				
MECHANICAL PROPERTIES		Value	Units	Standard
Tensile Strength	(Molding Direction)	3625 - 5075	psi	ASTM D638
Elongation at Break	(Molding Direction)	345 - 505	%	ASTM D638
Density		2.15 - 2.19	g/cc	ASTM D792
Hardness		57 - 64	Shore D	ASTM D2240
Haze	0.005" Thick	60 - 75	%	ASTM D1003
Light Transformation	0.005" Thick	90 - 94	%	ASTM D791
Deformation under load	@ 24 Hr , 73°F, 1987psi	4.5 - 6.5	%	ASTM D621
	@ Permanent Deformation	1.5 - 2.0	%	
	@ 1Hr, 300°F, 725psi	3.1 - 3.6	%	
Compressive Modulus	@ 0.2% Offset, 73F	94250 - 108750	psi	ASTM D621
Flexural Yield Strength	@ 0.2% Offset, 73°F	-	psi	ASTM D790
Flexural Modulus	@ 73°F (Transverse direct)	101500	psi	ASTM D790
Compressive Strength	@ 0.2% Offset, 73°F	-	psi	ASTM D695
	@ 0.2% Offset, 300°F	-	psi	
ELECTRICAL PROPERTIES		Value	Units	Standard
Dielectric Strength	@ Air (0.005" Thk Tape)	2280 - 2660	V/mil	ASTM D149
	@ Oil (0.005" Thk Tape)	2790 - 3300	V/mil	
Proof Test	(Dielectric Strength)	610 (Pass)	V/mil	BS6564 (E)
Dielectric Constant	@ 60 Hz	2.014	-	ASTM D150
	@ 1KHz	2.100	-	
Dissipation Factor	@ 60 Hz	<10 ⁻⁴	-	ASTM D150
	@ 1 KHz	<5x10 ⁻⁴	-	
Resistivity	@ Surface	10 ¹⁷	Ω	ASTM D257
	@ Volume	10 ¹⁸	Ω cm	
THERMAL PROPERTIES		Value	Units	Standard
Point of Fusion DSC		620	°F	ASTM D3417
Max. Working Temperature		500	°F	-
Max. Working Temperature	@ Short Periods	570	°F	-
Min. Working Temperature		-390	°F	-
Thermal Conductivity	@ Molding Direction (MD)	2.42	Btu in/(ft ² h °F)	ASTM C177
Coefficient of Linear Thermal Expansion TMA(73 - 390°F)	@ Moulding Direction (MD)	6.7	10 ⁵ /°F	ASTM D696
Flammability		None	-	UL94V(0)
Flash Point		None	°F	ASTM D1929
Limiting Oxygen Index		>95	%	ASTM D2863
WEAR PROPERTIES		Value	Units	Standard
Coefficient of Friction	@ 73°F Dry sliding	-	-	ASTM D1894
	@ Static	0.08	-	
	@ Dynamic	0.06	-	
Coefficient of Wear	@ 73°F	2.2 x 10 ⁻⁴	cm ³ min/(kg m h)	-

The above properties are typical and are only intended to be used as a guide



dalconTM 086

<i>Issued 21/04/16</i>	PHYSICAL PROPERTIES (Typical)	Page 2 of 2
Ingredients: 100% Virgin PTFE Filler/Pigment: None Colour: White (natural)		
CHEMICAL RESISTANCE		
<p>The strength of the carbon – fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, and some fluorine compounds at elevated temperatures.</p> <p>Some Fluorinated Hydrocarbons (refrigerants) cause reversible swelling i.e. Tetrafluorodichloroethane Frigen 21, giving a 9.6% weight increase.</p>		
APPLICATIONS & INDUSTRIES		
<p>General: The static and dynamic friction coefficient are numerically equal, consequently no ‘Stick Slip’ occurs. Modified PTFE has an advantage over Homopolymer (Normal PTFE), in that it has the following features. Remarkable lower deformation under load and permanent deformation. Higher elongation at break. Higher flex life. Higher dielectric strength. Higher transparency. Lower permeability. Better heat sealability.</p> <p>Chemical: Dynamic & shaft seals. Pipes & tubing for carrying chemicals. Seals & gaskets. Flat gaskets are used to seal flanges in pipelines.</p> <p>Construction: Bridge bearings. Slide bearings.</p> <p>Electrical: Communications, radio & television engineering, cable insulation. Electrical plant construction & electronics industry (connectors & terminals). General electrical equipment (PTFE excellent electrical insulating materials). Power plant installations (switchgear).</p> <p>Engineering: Anti-friction bearing cages & bearing plates. Bearings, bushes. Diaphragm pumps. Film bearings. Multi-layer composite bearings. Fabric bearings. Laboratory equipment. Measuring & Control technology. Pipe supports. Expansion bellows. Glandless valves & pumps. Valve seats. Piston rings in hydraulic systems. Piston rod packings used in compressor plunger pumps & valves.</p> <p>Food: Dynamic & shaft seals (used in the food processing industry). Linings & coatings (fertiliser plant & food industry line equipment).</p> <p>Weldability: This material is weldable to itself, at melt temperature using applied pressure without bonding aids.</p>		
The above properties are typical and are only intended to be used as a guide		



dalconTM Ultra

<i>Issued 21/04/16</i>	MATERIAL SPECIFICATION N° 900 ✓	<i>Page 1 of 1</i>
Product: Natural/Virgin PTFE (products codes suffixed 205)		
Extruded Rod	Moulded Rod/Tube	
Supplied in: Diameters ¼ inch to 2 inches, and lengths up to 6 feet	Supplied in: Diameters 1 inch & above, and lengths up to 19 inches	
<p>These Products have had additional processing to increase their physical and dimensional properties above normal grades of PTFE Products. The high dimensional stability allows tight tolerances to be achieved when machining. The high Dielectric Strength provides additional insulation in electrical applications. These Products have been approved by Underwriters Laboratories to UL94V(0).</p>		
MECHANICAL PROPERTIES & ELECTRICAL PROPERTIES		
Elongation:	200	% (minimum)
Tensile Strength:	2900	psi (minimum)
Density:	2.14	g/cc (minimum)
Dielectric Constant (@ 1MHz):	1.95 to 2.15	
Dielectric Strength:	800	V/mil (minimum)
Dimensional Stability:		
Diameter:	0.5	% (maximum)
Length:	1.5	% (maximum)
CHEMICAL RESISTANCE		
<p>The strength of the carbon-fluorine bond and the shielding of the carbon chains by the fluorine atoms result in a chemical inertness which is virtually universal, except alkali metals, fluorine under certain conditions, and some fluorine compounds at elevated temperatures.</p> <p>Some Fluorinated Hydrocarbons (refrigerants) cause reversible swelling i.e. Tetrafluorodichloroethane Frigen 21, giving a 9.6% weight increase.</p>		
APPLICATIONS & INDUSTRIES		
General:	The static and dynamic friction coefficient are numerically equal, consequently no 'Stick Slip' occurs.	
Chemical:	Dynamic & shaft seals. Pipes & tubing for carrying chemicals. Seals & gaskets. Flat gaskets are used to seal flanges in pipelines.	
Construction:	Bridge bearings. Slide bearings.	
Electrical:	Communications, radio & television engineering. Electrical plant construction & electronics industry (connectors & terminals). General electrical equipment (PTFE excellent electrical insulating material). Power plant installations (switchgear).	
Engineering:	Anti-friction bearing cages & bearing plates. Bearings, bushes. Laboratory equipment. Measuring & Control technology. Pipe supports. Expansion bellows. Glandless valves & pumps. Valve seats. Piston rings in hydraulic systems. Piston rod packings used in compressor plunger pumps & valves.	
Food:	Dynamic & shaft seals (used in the food processing industry). Linings (fertiliser plant & food industry line equipment).	
The above properties are typical and are only intended to be used as a guide		

