RAUH Polymers, Inc. **PermaFlex® DATA SHEET**

TYPICAL PROPERTY VALUES	CONDITIONS	TEST METHOD ASTM/OTHER	UNITS	PERMAFLEX® 45	PERMAFLEX® 50	PERMAFLEX® 55	PERMAFLEX® 75
Physical							
Melt Flow Rate	240o C @ 2.16 kg	D 1238	g/10 minutes	75	65	50	40
Density		D 792	g/cm/3	1.24	1.24	1.24	1.24
Mold Shrinkage	Flow Direction	D 955	in/in	0.005 - 0.006	0.005 - 0.006	0.005 - 0.006	0.005 - 0.006
	Type 1 Bar		mm/mm	.127 - .152	.127 - .152	.127 - .152	.127 - .152
Mechanical							
Izod Impact Strength	Notched	D 256	ft-lb/in				
-40^0 C	* For Impact Modified Version			NO BREAK	NO BREAK *	NO BREAK *	NO BREAK *
73^0 F				NO BREAK	NO BREAK	NO BREAK	NO BREAK *
Tensile Strength at Break	Type 1 Bar	D 638	psi				
-40^0 C				7,000	7,000	7,000	7,000
73^0 F				7,000	7,000	7,000	7,000
Tensile Elongation at Break	Type 1 Bar	D 638	%				
-40^0 C				900%	900%	900%	800%
73^0 F				900%	900%	900%	800%
Dart Impact				320in/lb+	320in/lb+	320in/lb+	320in/lb+
Thermal							
Heat Aging-Air	168 hours @ 150^0 C			NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
Heat Aging-Transmission Fluid	168 hours @ 150^0 C			NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
Heat Aging-Brake Fluid	168 hours @ 150^0 C			NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE
Melt Point				400^{0}F	410^{0}F	425^{0}F	425^{0}F
Vicat Softening Temperature	Rate A	D 648	^{o}F	380	395	400	405
			^{o}C	193	201	204	207
Specific Gravity		D-792	Unit g/ccm	1.24	1.24	1.24	1.25
Duro Type D		D-2240		50	55	61	75
Flammability							
UL 94 Flame Class	Specimen 1.6mm	UL 94		HB (V-O grades available)	HB (V-O grades available)	HB (V-O grades available)	HB (V-O grades available)
Other							
HYDROLYTIC STABILITY				EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
CHEMICAL RESISTANCE				EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
TABER ABRASION RESISTANCE	H-18, 1000 gm, 1000 cycles	D 3389	mg/revolu.	EXCELLENT	EXCELLENT	30.89	EXCELLENT
TEAR RESISTANCE	Die C	D624	20 in/min	EXCELLENT	EXCELLENT	855	EXCELLENT
CUT RESISTANCE				EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
COMPRESSION				EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT

RAUH Polymers, Inc. **PermaFlex® 45 Data Sheet**

TYPICAL PROPERTY VALUES	CONDITIONS	TEST METHOD ASTM/OTHER	UNITS	PERMAFLEX® 45
Physical				
Melt Flow Rate	240o C @ 2.16 kg	D 1238	g/10 minutes	75
Density		D 792	g/cm/3	1.24
Mold Shrinkage	Flow Direction	D 955	in/in	0.005 - 0.006
	Type 1 Bar		mm/mm	.127 - .152
Mechanical				
Izod Impact Strength	Notched	D 256	ft-lb/in	
-40^0 C				NO BREAK
73^0 F				NO BREAK
Tensile Strength at Break	Type 1 Bar	D 638	psi	
-40^0 C				7,000
73^0 F				7,000
Tensile Elongation at Break	Type 1 Bar	D 638	%	
-40^0 C				900%
73^0 F				900%
Dart Impact				320in/lb+
Thermal				
Heat Aging-Air	168 hours @ 150^0 C			NO CHANGE
Heat Aging-Transmission Fluid	168 hours @ 150^0 C			NO CHANGE
Heat Aging-Brake Fluid	168 hours @ 150^0 C			NO CHANGE
Melt Point				400^{0}F
Vicat Softening Temperature	Rate A	D 648	^{o}F	380
			^{o}C	193
Specific Gravity		D-792	Unit g/ccm	1.24
Duro Type D		D-2240		50
Flammability				
UL 94 Flame Class	Specimen 1.6mm	UL 94		HB (V-O grades available)
Other				
HYDROLYTIC STABILITY				EXCELLENT
CHEMICAL RESISTANCE				EXCELLENT
TABER ABRASION RESISTANCE	H-18, 1000 gm, 1000 cycles	D 3389	mg/revolu.	EXCELLENT
TEAR RESISTANCE	Die C	D624	20 in/min	EXCELLENT
CUT RESISTANCE				EXCELLENT
COMPRESSION				EXCELLENT

The data listed here falls within normal range of properties, but it should not be used for setting specific limits or used as a basis for design. The applications and conditions of use for this product including technical assistance and information are beyond our control. Users of this product are responsible for evaluating this product to ensure to their own satisfaction that it is suitable for their intended use. All information is given without warranty or guarantee. Before working with this product, users must read and familiarize themselves with the available health, safety and environmental information that is available regarding product hazards,proper use and handling.

RAUH Polymers, Inc. **PermaFlex® 50 Data Sheet**

TYPICAL PROPERTY VALUES	CONDITIONS	TEST METHOD ASTM/OTHER	UNITS	PERMAFLEX® 50
Physical				
Melt Flow Rate	240o C @ 2.16 kg	D 1238	g/10 minutes	65
Density		D 792	g/cm/3	1.24
Mold Shrinkage	Flow Direction	D 955	in/in	0.005 - 0.006
	Type 1 Bar		mm/mm	.127 - .152
Mechanical				
Izod Impact Strength	Notched	D 256	ft-lb/in	
-40^0 C	* Impact Modified Version			NO BREAK *
73^0 F				NO BREAK
Tensile Strength at Break	Type 1 Bar	D 638	psi	
-40^0 C				7,000
73^0 F				7,000
Tensile Elongation at Break	Type 1 Bar	D 638	%	
-40^0 C				900%
73^0 F				900%
Dart Impact				320in/lb+
Thermal				
Heat Aging-Air	168 hours @ 150^0 C			NO CHANGE
Heat Aging-Transmission Fluid	168 hours @ 150^0 C			NO CHANGE
Heat Aging-Brake Fluid	168 hours @ 150^0 C			NO CHANGE
Melt Point				410^{0}F
Vicat Softening Temperature	Rate A	D 648	^{o}F	395
			^{o}C	201
Specific Gravity		D-792	Unit g/ccm	1.24
Duro Type D		D-2240		55
Flammability				
UL 94 Flame Class	Specimen 1.6mm	UL 94		HB (V-O grades available)
Other				
HYDROLYTIC STABILITY				EXCELLENT
CHEMICAL RESISTANCE				EXCELLENT
TABER ABRASION RESISTANCE	H-18, 1000 gm, 1000 cycles	D 3389	mg/revolu.	EXCELLENT
TEAR RESISTANCE	Die C	D624	20 in/min	EXCELLENT
CUT RESISTANCE				EXCELLENT
COMPRESSION				EXCELLENT

The data listed here falls within normal range of properties, but it should not be used for setting specific limits or used as a basis for design. The applications and conditions of use for this product including technical assistance and information are beyond our control. Users of this product are responsible for evaluating this product to ensure to their own satisfaction that it is suitable for their intended use. All information is given without warranty or guarantee. Before working with this product, users must read and familiarize themselves with the available health, safety and environmental information that is available regarding product hazards,proper use and handling.

RAUH Polymers, Inc.		PermaFlex® 55 Data Sheet		
TYPICAL PROPERTY VALUES	**CONDITIONS**	**TEST METHOD ASTM/OTHER**	**UNITS**	**PERMAFLEX® 55**
Physical				
Melt Flow Rate	240o C @ 2.16 kg	D 1238	g/10 minutes	50
Density		D 792	g/cm/3	1.24
Mold Shrinkage	Flow Direction	D 955	in/in	0.005 - 0.006
	Type 1 Bar		mm/mm	.127 - .152
Mechanical				
Izod Impact Strength	Notched	D 256	ft-lb/in	
-40^0 C	*Impact Modified Version			NO BREAK *
73^0 F				NO BREAK
Tensile Strength at Break	Type 1 Bar	D 638	psi	
-40^0 C				7,000
73^0 F				7,000
Tensile Elongation at Break	Type 1 Bar	D 638	%	
-40^0 C				900%
73^0 F				900%
Dart Impact				320in/lb+
Thermal				
Heat Aging-Air	168 hours @ 150^0 C			NO CHANGE
Heat Aging-Transmission Fluid	168 hours @ 150^0 C			NO CHANGE
Heat Aging-Brake Fluid	168 hours @ 150^0 C			NO CHANGE
Melt Point				425^{0}F
Vicat Softening Temperature	Rate A	D 648	^{o}F	400
			^{o}C	204
Specific Gravity		D-792	Unit g/ccm	1.24
Duro Type D		D-2240		61
Flammability				
UL 94 Flame Class	Specimen 1.6mm	UL 94		HB (V-O grades available)
Other				
HYDROLYTIC STABILITY				EXCELLENT
CHEMICAL RESISTANCE				EXCELLENT
TABER ABRASION RESISTANCE	H-18, 1000 gm, 1000 cycles	D 3389	mg/revolu.	30.89
TEAR RESISTANCE	Die C	D624	20 in/min	855
CUT RESISTANCE				EXCELLENT
COMPRESSION				EXCELLENT

The data listed here falls within normal range of properties, but it should not be used for setting specific limits or used as a basis for design. The applications and conditions of use for this product including technical assistance and information are beyond our control. Users of this product are responsible for evaluating this product to ensure to their own satisfaction that it is suitable for their intended use. All information is given without warranty or guarantee. Before working with this product, users must read and familiarize themselves with the available health, safety and environmental information that is available regarding product hazards,proper use and handling.

RAUH Polymers, Inc. **PermaFlex® 75 Data Sheet**

TYPICAL PROPERTY VALUES	CONDITIONS	TEST METHOD ASTM/OTHER	UNITS	PERMAFLEX® 75
Physical				
Melt Flow Rate	240o C @ 2.16 kg	D 1238	g/10 minutes	40
Density		D 792	g/cm/3	1.24
Mold Shrinkage	Flow Direction	D 955	in/in	0.005 - 0.006
	Type 1 Bar		mm/mm	.127 - .152
Mechanical				
Izod Impact Strength	Notched	D 256	ft-lb/in	
-40^0 C	*Impact Modified Version			NO BREAK *
73^0 F				NO BREAK *
Tensile Strength at Break	Type 1 Bar	D 638	psi	
-40^0 C				7,000
73^0 F				7,000
Tensile Elongation at Break	Type 1 Bar	D 638	%	
-40^0 C				800%
73^0 F				800%
Dart Impact				320in/lb+
Thermal				
Heat Aging-Air	168 hours @ 150^0 C			NO CHANGE
Heat Aging-Transmission Fluid	168 hours @ 150^0 C			NO CHANGE
Heat Aging-Brake Fluid	168 hours @ 150^0 C			NO CHANGE
Melt Point				425^{0}F
Vicat Softening Temperature	Rate A	D 648	^{o}F	405
			^{o}C	207
Specific Gravity		D-792	Unit g/ccm	1.25
Duro Type D		D-2240		75
Flammability				
UL 94 Flame Class	Specimen 1.6mm	UL 94		HB (V-O grades available)
Other				
HYDROLYTIC STABILITY				EXCELLENT
CHEMICAL RESISTANCE				EXCELLENT
TABER ABRASION RESISTANCE	H-18, 1000 gm, 1000 cycles	D 3389	mg/revolu.	EXCELLENT
TEAR RESISTANCE	Die C	D624	20 in/min	EXCELLENT
CUT RESISTANCE				EXCELLENT
COMPRESSION				EXCELLENT