

Physical Properties – AcrySpa™ Plus I-300+

Aristech Surfaces AcrySpa™ Plus is a composite engineered material which has the exceptional surface properties, weathering characteristics and aesthetics of Aristech Surfaces Opaque Continuous Cast Acrylic and a substrate that imparts outstanding impact resistance and thermoformability.

General: Thickness 0.160 (4.1) Inch (mm) — Specific Gravity 1.085 — ASTM D-792 Mechanical: — ASTM D-638 Tensile Strength 6,600 (45.5) psi (MPa) ASTM D-638 Tensile Elongation 4.4 % ASTM D-638 Flexural Strength 9,100 (62.7) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Modulus 340,000 (2,344) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790	Property	Typical Values	Units	Test Method
Specific Gravity 1.085 — ASTM D-792 Mechanical: Tensile Strength 6,600 (45.5) psi (MPa) ASTM D-638 Tensile Strength 6,600 (45.5) psi (MPa) ASTM D-638 Tensile Blongation 4.4 % ASTM D-638 Tensile Elongation 4.4 % ASTM D-790 (Acrylic in Compression) Flexural Strength 9,100 (62.7) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Tension) (Acrylic in Tension) Psi (MPa) ASTM D-790 (Acrylic in Tension) Notched Izod Impact 21 (11.0) Ft.Ibs/in.of notch (kI/m²) ASTM D-256 (Method A) Falling Dart Impact 12.3 (16.7) Ft.Ibs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-258 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: (Acrylic Side) 3	General:			
Mechanical: Tensile Strength 6,600 (45.5) psi (MPa) ASTM D-638 Tensile Modulus 370,000 (2,551) psi (MPa) ASTM D-638 Tensile Elongation 4.4 % ASTM D-638 Flexural Strength 9,100 (62.7) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Modulus 340,000 (2,344) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Psi (MPa) ASTM D-790 (Acrylic in Tension) Notched Izod Impact 21 (11.0) Ft.lbs.(in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (16.7) Ft.lbs.(j) FTMS 406 M-1074 Bercol Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) *F (*C)	Thickness	0.160 (4.1)	Inch (mm)	_
Tensile Strength 6,600 (45.5) psi (MPa) ASTM D-638 Tensile Modulus 370,000 (2,551) psi (MPa) ASTM D-638 Tensile Elongation 4.4 % ASTM D-638 Flexural Strength 9,100 (62.7) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Modulus 340,000 (2,344) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Ft.lbs/in.of notch (kJ/m²) ASTM D-790 (Acrylic in Tension) Ft.lbs/in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (16.7) Ft.lbs/in.of notch (kJ/m²) ASTM D-256(Method A) Barcol Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) *F (*C) Aristech Method	Specific Gravity	1.085	_	ASTM D-792
Tensile Modulus 370,000 (2,551) psi (MPa) ASTM D-638 Tensile Elongation 4.4 % ASTM D-638 Flexural Strength 9,100 (62.7) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Modulus 340,000 (2,344) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Tension) (Acrylic in Tension) ASTM D-790 ASTM D-790 (Acrylic in Tension) (Acrylic in Tension) ASTM D-790 Notched Izod Impact 2.1 (II.0) Ft.lbs/in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (16.7) Ft.lbs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-258(Method A) Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) *F (*C) Aristech Method Coefficient of Thermal 0.000047 (000085) in./in./*F (cm/cm/*C) ASTM D-696 Expansion TUL @ 264 psi(1.82 MPa) 186.0 (85.6) *F (*C) ASTM D-648 <t< td=""><td>Mechanical:</td><td></td><td></td><td></td></t<>	Mechanical:			
Tensile Elongation 4.4 % ASTM D-638 Flexural Strength 9,100 (62.7) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Modulus 340,000 (2,344) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Notched Izod Impact 2.1 (II.0) Ft.lbs./in.of notch (kJ/m²) ASTM D-790 (Acrylic in Tension) Notched Izod Impact 2.1 (II.0) Ft.lbs./in.of notch (kJ/m²) ASTM D-790 (Acrylic in Tension) Ft.lbs./in.of notch (kJ/m²) ASTM D-256(Method A) FIMS 406 M-1074 Barcol Hardness 54 — ASTM D-258(Method A) Barcol Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (I77-193) *F (*C) Aristech Method (ABS Side) 300-340 (I49-171) *F (*C) ASTM D-696 Expansion DTUL @ 264 psi(I.82 MPa)	Tensile Strength	6,600 (45.5)	psi (MPa)	ASTM D-638
Flexural Strength (Acrylic in Compression) 9,100 (62.7) psi (MPa) ASTM D-790 Flexural Modulus (Acrylic in Compression) 340,000 (2,344) psi (MPa) ASTM D-790 Flexural Strength (Acrylic in Tension) 10,800 (74.5) psi (MPa) ASTM D-790 Flexural Modulus (Acrylic in Tension) 326,000 (2,247) psi (MPa) ASTM D-790 Flexural Modulus (Acrylic in Tension) 326,000 (2,247) psi (MPa) ASTM D-790 Notched Izod Impact (Acrylic in Tension) 2.1 (II.0) Ft.Ibs./in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact (Acrylic Impact (Acrylic Side) 12.3 (16.7) Ft.Ibs. (I) FTMS 406 M-1074 Barcol Hardness (M) 67 - ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) "F ("C) Aristech Method A) (ABS Side) (ASS	Tensile Modulus	370,000 (2,551)	psi (MPa)	ASTM D-638
(Acrylic in Compression) 340,000 (2,344) psi (MPa) ASTM D-790 (Acrylic in Compression) 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Tension) 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Variance (MPa) ASTM D-790 (Acrylic in Tension) Ft.lbs./in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (16.7) Ft.lbs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) *F (*C) Aristech Method (ABS Side) 300-340 (149-171) *F (*C) ASTM D-696 Expansion DTUL @ 264 psi(1.82 MPa) 186.0 (85.6) *F (*C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Tensile Elongation	4.4	%	ASTM D-638
Flexural Modulus 340,000 (2,344) psi (MPa) ASTM D-790 (Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Vacrylic in Tension) ASTM D-790 ASTM D-256(Method A) Falling Dart Impact 2.1 (I1.0) Ft.lbs/in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (16.7) Ft.lbs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) *F (*C) Aristech Method (ABS Side) 300-340 (149-171) *F (*C) ASTM D-696 Expansion DTUL @ 264 psi (182 MPa) 186.0 (85.6) *F (*C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 O	Flexural Strength	9,100 (62.7)	psi (MPa)	ASTM D-790
(Acrylic in Compression) Flexural Strength 10,800 (74.5) psi (MPa) ASTM D-790 (Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) (Acrylic in Tension) Notched Izod Impact 2.1 (I1.0) Ft.lbs/in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (16.7) Ft.lbs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) *F (*C) Aristech Method (ABS Side) 300-340 (149-171) *F (*C) ASTM D-696 Expansion 0.000047 (000085) in./in./*F (cm/cm/*C) ASTM D-696 Expansion DTUL @ 264 psi (1.82 MPa) 186.0 (85.6) *F (*C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	(Acrylic in Compression)			
Flexural Strength (Acrylic in Tension) 10,800 (74.5) psi (MPa) ASTM D-790 Flexural Modulus (Acrylic in Tension) 326,000 (2,247) psi (MPa) ASTM D-790 Notched Izod Impact (Acrylic in Tension) 2.1 (I1.0) Ft.lbs/in.of notch (kJ/m²) ASTM D-256 (Method A) Falling Dart Impact (Bardness (M)) 12.3 (I6.7) Ft.lbs. (J) FTMS 406 M-1074 Barcol Hardness (M) 67 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) *F (*C) Aristech Method A) Coefficient of Thermal Expansion 0.000047 (.000085) in./in./*F (cm/cm/*C) ASTM D-696 Expansion TUL @ 264 psi(1.82 MPa) 186.0 (85.6) *F (*C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — — —	Flexural Modulus	340,000 (2,344)	psi (MPa)	ASTM D-790
(Acrylic in Tension) Flexural Modulus 326,000 (2,247) psi (MPa) ASTM D-790 (Acrylic in Tension) Notched Izod Impact 2.1 (I1.0) Ft.Ibs/in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (I6.7) Ft.Ibs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature *F (*C) Aristech Method (Acrylic Side) 350-380 (I77-193) *F (*C) Aristech Method (ABS Side) 300-340 (I49-171) *F (*C) ASTM D-696 Expansion DTUL @ 264 psi(I.82 MPa) 186.0 (85.6) *F (*C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) None — ASTM D-523	(Acrylic in Compression)			
Flexural Modulus (Acrylic in Tension) 326,000 (2,247) psi (MPa) ASTM D-790 Notched Izod Impact Notched Izod Impact Palling Dart Impact Palling Dart Impact Sarcol Hardness Sarcol Hardness Sarcol Hardness (M) 12.3 (16.7) Ft.lbs./in.of notch (kJ/m²) ASTM D-256(Method A) Barcol Hardness (M) 67 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) (Acryl	Flexural Strength	10,800 (74.5)	psi (MPa)	ASTM D-790
(Acrylic in Tension) ASTM D-256(Method A) Notched Izod Impact 2.1 (II.0) Ft.lbs./in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (I6.7) Ft.lbs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (I77-193) °F (°C) Aristech Method (ABS Side) 300-340 (I49-17I) °F (°C) ASTM D-696 Expansion DTUL @ 264 psi(I.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	(Acrylic in Tension)			
Notched Izod Impact 2.1 (II.0) Ft.lbs/in.of notch (kJ/m²) ASTM D-256(Method A) Falling Dart Impact 12.3 (16.7) Ft.lbs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) °F (°C) Aristech Method (ABS Side) 300-340 (149-171) °F (°C) ASTM D-696 Expansion 0.000047 (.000085) in./in./°F (cm/cm/°C) ASTM D-696 Expansion DTUL @ 264 psi(1.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Flexural Modulus	326,000 (2,247)	psi (MPa)	ASTM D-790
Falling Dart Impact 12.3 (16.7) Ft.lbs. (J) FTMS 406 M-1074 Barcol Hardness 54 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) °F (°C) Aristech Method (ABS Side) 300-340 (149-171) °F (°C) Aristech Method Coefficient of Thermal 0.000047 (.000085) in./in./ °F (cm/cm/°C) ASTM D-696 Expansion DTUL @ 264 psi(1.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	(Acrylic in Tension)			
Barcol Hardness 54 — ASTM D-2583 Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature Hot Forming Temperature (Acrylic Side) 350-380 (177-193) °F (°C) Aristech Method (ABS Side) 300-340 (149-171) °F (°C) ASTM D-696 Expansion DTUL @ 264 psi(1.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Notched Izod Impact	2.1 (11.0)	Ft.lbs./in.of notch (kJ/m²)	ASTM D-256(Method A)
Rockwell Hardness (M) 67 — ASTM D-785 Thermal: Hot Forming Temperature F (°C) Aristech Method (Acrylic Side) 350-380 (177-193) °F (°C) Aristech Method (ABS Side) 300-340 (149-171) °F (°C) ASTM D-696 Coefficient of Thermal Expansion 0.000047 (.000085) in./in./ °F (cm/cm/°C) ASTM D-696 Expansion DTUL @ 264 psi(1.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Falling Dart Impact	12.3 (16.7)	Ft.Ibs. (J)	FTMS 406 M-1074
Thermal: Hot Forming Temperature (Acrylic Side) 350-380 (177-193) °F (°C) Aristech Method (ABS Side) 300-340 (149-171) °F (°C) Aristech Method Coefficient of Thermal 0.000047 (.000085) in./in./ °F (cm/cm/°C) ASTM D-696 Expansion DTUL @ 264 psi(1.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Barcol Hardness	54	_	ASTM D-2583
Hot Forming Temperature (Acrylic Side) 350-380 (177-193) °F (°C) Aristech Method (ABS Side) 300-340 (149-171) °F (°C) Aristech Method Coefficient of Thermal 2 0.000047 (.000085) in./in./ °F (cm/cm/°C) ASTM D-696 Expansion DTUL @ 264 psi(1.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Rockwell Hardness (M)	67	_	ASTM D-785
(Acrylic Side) 350-380 (177-193) °F (°C) Aristech Method (ABS Side) 300-340 (149-171) °F (°C) Aristech Method Coefficient of Thermal 0.000047 (.000085) in./in./ °F (cm/cm/°C) ASTM D-696 Expansion °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Thermal:			
(ABS Side) 300-340 (149-171) °F (°C) Aristech Method Coefficient of Thermal Expansion 0.000047 (.000085) in./in./ °F (cm/cm/°C) ASTM D-696 Expansion °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Hot Forming Temperature			
Coefficient of Thermal Expansion 0.000047 (.000085) in./in./ °F (cm/cm/°C) ASTM D-696 DTUL @ 264 psi (1.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	(Acrylic Side)	350-380 (177-193)	°F (°C)	Aristech Method
Expansion DTUL @ 264 psi(1.82 MPa) 186.0 (85.6) °F (°C) ASTM D-648 Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	(ABS Side)	300-340 (149-171)	°F (°C)	Aristech Method
Miscellaneous: Water Absorption 0.19 % ASTM D-570 Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —		0.000047 (.000085)	in./in./ °F (cm/cm/°C)	ASTM D-696
Water Absorption0.19%ASTM D-570Gardner Gloss (60 Angle)87.4—ASTM D-523OdorNone——	DTUL @ 264 psi(1.82 MPa)	186.0 (85.6)	°F (°C)	ASTM D-648
Gardner Gloss (60 Angle) 87.4 — ASTM D-523 Odor None — —	Miscellaneous:			
Odor None — —	Water Absorption	0.19	%	ASTM D-570
Odor None — —	Gardner Gloss (60 Angle)	87.4	_	ASTM D-523
Taste None — — —		None	_	_
	Taste	None	_	_





Note: for cautions and information on exposure to any Aristech Surfaces' product, please see the applicable material safety data sheet.

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