

### Typical Physical Properties of GKN Aerospace Stretched Acrylic MIL-PRF-25690 ACRIVUE 350S

Stretched acrylic find wide application in high quality transparencies where excellent optics, weatherability, and resistance to crazing and fracture propagation are required.

PHYSICAL PROPERTIES	UNITS	VALUE	TEST METHOD
Specific gravity	–	1.19	ASTM D-792-00
Tensile strength	psi	11,000	ASTM D-638-00
Tensile modulus	psi	450,000	ASTM D-638-00
Flexural strength	psi	16,000	ASTM D-790-00
Comprehensive strength	psi	19,000	ASTM D-695-96
Shear strength	psi	9,500	ASTM D-732-99
Resistance to Fracture Propagation (K Factor)	lbs./in. 3/2	3000	MIL-PRF-25690 Paragraph 4.6.5.
Impact strength			
Izod, notched	ft.lbs./in.	0.5	ASTM D-256-00
Charpy, unnotched	ft. lbs.	9.1	ASTM D-785-00
Hardness - Rockwell	M Scale	93	ASTM D-2583-95
Hardness - Barcol	–	52	

THERMAL PROPERTIES	UNITS	VALUE	TEST METHOD
Maximum Service Temperature	°F	180-200	– –
Coefficient of thermal expansion	in./in./°F	4 x 10 <sup>-5</sup>	ASTM D-696-98
Coefficient of thermal conductivity	BTU/hr./sq.ft./°F/in.	1.3	Cenco-Fitch
Specific heat	BTU/lb/°F	0.35	ASTM C-351-99

ELECTRICAL PROPERTIES	UNITS	VALUE	TEST METHOD
Dielectric strength	Volts/Mil	500	ASTM D-149-97
Surface Resistivity	Ohm/Square	2 x 10 <sup>18</sup>	ASTM D-257-99

OPTICAL PROPERTIES	UNITS	VALUE	TEST METHOD
Refractive Index	–	1.49	ASTM D-542-00
Light Transmission	%	92	ASTM D-1003-00
Haze	%	1	ASTM D-1003-00

**CHEMICAL RESISTANCE      ASTM D-543-95      (7 days immersion, 77°F)**

<u>Chemical</u>	<u>WT. Gain, %</u>	<u>Visual Effect</u>	<u>Dimensional Change, %</u>
Soap and Water	0.95	No Change	0.0
10% NaOH	0.63	No Change	0.0
10% NH4OH	0.91	No Change	0.0
10% HCl	0.80	No Change	0.0
Bug and tar remover	0.84	No Change	00-2.9
Rain repellent (Rapcon)	0.27	No Change	0.0
Naphtha	0.01	No Change	0.0-0.5
Methanol	0.33	No Change	0.0
Perma-Tex Plastic Cleaner	0.90	No Change	0.0
Brake Fluid (dupont)	0.90	Sl. haze, tacky	0.0
Lube oil	0.00	No Change	0.0
Hydraulic fluid, fire resistant	0.09	No Change	0.0
Methyl ethyl ketone	5.76	Swollen at edges	0.0-0.5
Toluene	1.25	Swollen at edges	0.0-0.1
JP-4 jet fuel	0.02	No Change	0.0

**ACCELERATED AGEING**

ASTM D-2565-00 (Xenon Arc)      No significant change in light transmittance, haze, color, surface appearance or  
 ASTM D-4329 (QUV)      flatness observed after 2000 hr. exposure.

**STANDARD SHEET SIZES      76 x 76 in.      and      \*96 x 96 in.**

**In the following thicknesses :**

0.080 in	0.450 in	0.800 in	* 96 x 96 only available in 0.080 and 0.150 in. thickness.
0.150	0.475	0.900	
0.200	0.500	1.000	
0.250	0.550	1.100	
0.300	0.600	1.200	
0.350	0.650		
0.410	0.700		
0.435	0.750		

Please contact us at the numbers below for further information or other available sizes.

Any data furnished are based on information believed to be reliable. They are offered in good faith but without guarantee. They are offered in good faith but without guarantee. The prospective user should determine the suitability of the materials before adopting them. **NO WARRANTY IS MADE THAT ANY MATERIAL IS FIT FOR ANY PARTICULAR PURPOSE.**



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