

# Ultrasonic Couplant Comparison Guide

Product	General Purpose Couplants					Extended & Extreme Temperature Series		
	Ultragel II	Sonotrance Gr 30	Echogel Gr 20	Soundsafe	UT-X Powder	Sono 600	Sono 1100	Pyrogel Gr 100
Temperature Range <sup>a</sup> Fahrenheit °F	-10–210	25–175	27–140	0–200	32–120	0–700	700–775	-5–805
Temperature Range <sup>a</sup> Celsius °C	-23–99	-4–79	-3–60	-18–93	0–49	-18–371	371–413	-45–429
Corrosion Inhibition <sup>b</sup>	90	80	65	75	10	100	N/A	100
Relative Viscosity <sup>c</sup>	4	4	6	4	1 to 7	6	N/A	10
Actual Viscosity (Brookfield)	~80,000 cps (Helipath Spindle E @ 1.5 rpm)	~65,000 cps (Helipath Spindle E @ 1.5 rpm)	~75,000 cps (LV #4 @ 6 rpm)	~80,000 cps (Helipath Spindle E @ 1.5 rpm)	Variable by altering water amount	~500,000 cps (LV #5 @ 1.5 rpm)	N/A	>4,000,000 cps (LV #5 @ 0.3 rpm)
Long Velocity (x10 <sup>5</sup> cm/sec)	1.65	1.52	1.55	1.64	1.51	1.50	N/A	1.20
Impedance (Mrayls)	1.80	1.55	1.60	1.72	1.53	1.37	N/A	1.35
Acoustic Performance <sup>d</sup>	85	55	50	80	40	70	N/A	55
Typical Max Halogens <sup>e</sup>	<50 ppm	<50 ppm	<50 ppm	<50 ppm	<50 ppm	N/A	N/A	N/A
Typical Max Sulfur <sup>e</sup>	<50 ppm	<50 ppm	<50 ppm	<50 ppm	<50 ppm	N/A	N/A	N/A
Water Solubility <sup>f</sup>	90	90	80	90	80	20	0	10
ASTM F519	✓		✓					
ASTM F945-PWA 36604	✓							
PWA 36700	✓			✓				
BAC 5968	✓	✓						
BAC 5980	✓							
BAC 5439-PSD 622	✓		✓					

<sup>a</sup> For thickness gaging (lower maximum for flaw inspection)

<sup>b</sup> Duration of ferrous corrosion inhibition (mild steel & cast iron): 100 = long term protection, 80 = 60 days-steel, 14 days - iron, 60 = 30 days - steel, 7 days - iron, 40 = 7 days - steel, 2 to 8 hours - iron, 20 = 8 hours-steel, 0 to 2 hours - iron, 0 = no inhibition, like plain water.

<sup>c</sup> 10 = thick paste, 5 = slow flowing gel, 0 = water

<sup>d</sup> For thickness gaging (lower maximum for flaw inspection)

<sup>e</sup> Typical values only, request current C of A for actual values

<sup>f</sup> 100 = easiest to remove with appropriate solvent, 0 = difficult to remove even with solvent and scrubbing

N/A = Not Available, Information in green indicates best estimates.