HANGSTERFER'S®

Research, Development & Manufacturing of Metalworking Lubricants

Crystal Cut® 322 *Synthetic Coolant Concentrate*

GENERAL DESCRIPTION

- Multi-Purpose Synthetic Coolant
- Transparent
- Biostable formula, Extended sump life
- Excellent Corrosion Control on Steel / Iron
- Ideal for continuous use Recycling Systems
- Non-Toxic and Non Corrosive
- Boeing Approved
- Chlorine Free, Sulfur Free, Nitrite Free

APPLICATION

Hangsterfer's Crystal Cut 322 is a full synthetic coolant. It is used successfully in all types of grinding applications including surface, centerless, cylindrical, creep feed, rotary surface, form, tool and cutter grinding. Crystal Cut 322 is also used for CNC machining and CNC turning. Crystal Cut 322 should be used between 5% and 15%. As the hardness of the material increases, the concentration should also increase

MATERIALS

Primary		Secondary	
Aluminum Alloys	Ceramics	Chromium Alloys	Carbide
Ductile Iron & Cast Iron	Glass	Plastics	
Nickel Alloys	Titanium	Steels and Stainless Steels: 250 to 450	
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Operation	*Concentration*		
	Ratio Concentrate: Water	*%*	*Refractometer*
General Grinding	1:20	5	1.9
General Machining and Turning	1:13	7.5	2.9
Grinding with aggressive feed rates	1:10	10	3.8
Drilling, Tapping, Reaming	1:10	10	3.8
Light Stamping and Forming	1:10	10	3.8

MIXING INSTRUCTIONS & MAINTENANCE

Mixing Instructions: Always premix coolant before adding to the machine sump. When mixing coolant by hand it is important to always add the concentrate to the water, then agitate. For best results a Hangsterfer's recommended proportioning unit should be used. To maintain recommended concentration, make-up or top-up should be added at one-half the desired concentration. To maintain 6% in the machine, first charge the machine at 6%, then as needed add make-up at 3%. Never add straight water or concentrate directly to machine.

Maintenance: Crystal Cut 322 is a biostable synthetic coolant, designed to control the growth of bacteria. Regular maintenance is required for maximum performance. Concentration should be monitored regularly with a calibrated refractometer. Tramp oils should be removed from the coolant surface regularly to prevent unwanted bacterial growth. Keep the coolant system free of cleaners, solvents and other contaminants.

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PRODUCT CHARACTERISTICS

Product	Crystal Cut 322	Concentration Dilution Table		
Form	Liquid	%	Ratio	Refractometer
Color	Amber	20%	1 : 5	7.7
Odor	Mild	15%	1 : 7	5.8
Specific Gravity	1.04	10%	1 : 10	3.8
Viscosity: SUS @ 100°F	**52**	7.5%	1 : 13	2.9
cSt @ 40°C	**8**	5%	1 : 20	1.9
Flash Point, COC, °F/°C	N/F	4%	1 : 25	1.5
Fire Point, COC, °F/°C	N/F	3%	1 : 33	1.2
Pour Point, °F/°C	32 / 0	2.5%	1 : 40	1.0
Solubility in Water	100%	2%	1 : 50	0.8
Boiling Point, °F/°C	212 / 100	1%	1 : 100	0.4
Vapor Pressure, mm Hg @ 25°	<0.01	**Refractive Index Multiplier = 2.6**		
pH @ 10%	8.5			

SHIPPING UNITS

Crystal Cut 322 is available in 5 gallon, 55 gallon and Intermediate Bulk Containers (275 or 330 gallons). All products are distributed worldwide.

Revised: Nov 16 2010