

ROYCO[®] 602

Aviation Performance Fluid

Description

Royco[®] 602 is a synthetic based dielectric coolant consisting of a stable synthetic hydrocarbon known as polyalphaolefin (PAO) and modern additives. Royco[®] 602 offers exceptional performance over a temperature range of -54 to 200 °C. It does not react with water, resulting in cleaner operating systems and longer component life.

Application

Royco[®] 602 is recommended for use as a dielectric cooling fluid for aircraft avionics systems, high-powered transmitter equipment and power supplies, radar, navigation and other electronic systems. Royco[®] 602 may also be considered for use in electronics cooling systems such as circulating computer coolant systems. Benefits include lower initial cost, longer fluid life, lower weight and lower toxicity when compared to other types of avionic coolants. Since Royco[®] 602 does not react with water, no specialized reclamation equipment is required and there may be less environmental impact potential in the event of a spill.

Elastomer Compatibility**Recommended (< 5% swell)**

- Nitrile (N 674-70)
- Fluorosilicone
- Fluorocarbon (PTFE, Viton)
- Polyacrylate

Marginal (< 15% swell)

- Nitrile (N 497-70)

Not Recommended (> 15% swell)

- Ethylene Propylene
- Buna N
- SBR
- Polychloroprene

Approvals and Specifications

Royco[®] 602 is qualified to and meets all requirements of MIL-PRF-87252.

Limitations

The oils used in this product may soften certain paints and elastomer. Do not use with neoprene or natural rubber elastomers. Components should be evaluated for compatibility if there is any concern. ⁵



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Technical data*

PROPERTIES	TEST METHOD	ROYCO® 602
Kinematic Viscosity @ 40 °C	ASTM D 445	5.18
Kinematic Viscosity @ 100 °C	ASTM D 445	1.72
Kinematic Viscosity @ -40 °C	ASTM D 445	274
Kinematic Viscosity @ -54 °C	ASTM D 2532	1137
Density, Pounds per Gallon		6.66
Gravity, API		45.4
Viscosity Index	ASTM D 2270	145
Pour Point, °C	ASTM D 97	-100
Acid Number, mg KOH/g	ASTM D 664	0.03
Flash Point, °C	ASTM D 92	158
Fire Point, °C	ASTM D 92	173
Water Content, ppm	ASTM D 6304	20
Dielectric Constant		2.10
Dielectric Breakdown Voltage, KV	ASTM D 887	53
Volume Resistivity, ohm-cm	ASTM D 1169	24.3X10 ¹⁰
High Temperature Stability, 200 °C, 100 hrs	MIL-PRF-87252 4.4.3	
Viscosity Change, %	MIL-PRF-87252 4.4.3	Pass
Acid Number Change, mg KOH/g	MIL-PRF-87252 4.4.3	Pass
Corrosive and Oxidative Stability (168 hrs at 121 °C)	ASTM D 4636	Pass
Particle Contamination Control	ISO 11500	Pass

*The analytical data are guide values.

Packaging


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ROYCO® 602 is available in 55 gallon drums and 5 gallon pails. Other packaging may be available on request.

Handling

Consult product safety data sheet (SDS) for additional handling information on ROYCO® 602

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