

ROYCO[®] 634E

CLEANER, LUBRICANT, AND PRESERVATIVE (CLP)
FOR WEAPONS AND WEAPONS SYSTEMS

Description

ROYCO 634E is considered a “next generation” CLP-type lubricant. It provides high degree of penetration, guards against dust/particulate infiltration, outstanding rust inhibition, and minimizes weapon jamming in adverse conditions of handheld weapons, and weapons systems of both large and small caliber. **ROYCO 634E** may also be considered for many industrial applications.

Features and Benefits

Features	Benefits
<p>ROYCO 634E provides additives that, in addition to their ability to penetrate between metal surfaces, provide corrosion protection and water displacement</p>	<p>CLEANING - effective removal of built up dirt, corrosion particles and firing residues that can be abrasive to both recoil and gas operated mechanisms.</p> <p>PRESERVATION a thin-film layer of preservative forms immediately on the surface that not only displaces water but provides a corrosion resistant barrier against rust and dirt.</p>
<p>ROYCO 634E incorporates advanced technology additives to enhance film strength and antiwear properties</p>	<p>LUBRICATION - reduced friction between moving parts and minimizing wear and the build-up of wear-related debris.</p>

Applications

ROYCO 634E is formulated to meet the complete requirements of cleaning, lubricating, and preserving both small and large caliber weapons in virtually all climate conditions from -65^oF to +150^oF. In addition, **ROYCO 634E** contains no ozone depleting compounds and meets California Clean Air Act VOC requirements.

ROYCO 634E is not limited only to ordnance use; in fact, it is effective in a wide variety of applications including automotive, aviation, marine, and general plant maintenance of industrial equipment.

Approvals and Specifications

ROYCO 634E is qualified to and meets all requirements of MIL-SPEC: MIL-PRF- 63460E Int. Amendment 2.

Typical Properties

PROPERTY	TEST METHOD	ROYCO® 634E
Kinematic Viscosity, cSt	ASTM D445	
@ 40°C (104°F) – with solvent		14.6
@ -40°C (-40°F) – solvent evaporated	ASTM D97	1,225
Pour Point, °C (°F)		<-63 (<-53)
Flash Point, °C (°F)	ASTM D92	120 (248)
4-Ball Wear, 40 kg, 1200 rpm, 75°C, 1 hour, mm	ASTM D4172	0.34
API Gravity, 15.6°C	ASTM D4052	29.8
FALEX Load Carrying Capacity, lbs	ASTM D5620B	PASS
Acid Number, mg KOH/g	ASTM D664	11.6
Salt Spray Corrosion Resistance, 100 hrs, sandblasted panels	ASTM B117	PASS
Humidity Cabinet Rust Resistance, 120°F, 100% RH, 900 hrs.	ASTM D1748	PASS
Water Displacement and Stability	FTM 3007	PASS
Metal Corrosion Test, wt change mg/cm ² 130°F, 168 hrs	MIL-PRF-63460E	
Zinc		0.00
Aluminum		+0.02
Brass		+0.07
Steel		+0.03
Copper	MIL-PRF-63460E	+0.01
Magnesium		
Cadmium		+0.02
Reactivity with Chemical Agent Detector		
M8 Detector		PASS
M9 Detector		PASS

Packaging

ROYCO 634 is available in 55 gallon drums. Other packages may be available on request.

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