

# ROYCO® 634E CLEANER, LUBRICANT, AND PRESERVATIVE (CLP) FOR WEAPONS AND WEAPONS SYSTEMS

**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**

- provides additives that, in addition to their ability to penetrate between metal surfaces, provide corrosion protection and water displacement
- incorporates advanced technology additives to enhance film strength and antiwear properties

# **Benefits**

 CLEANING - effective removal of built up dirt, corrosion particles and firing residues that can be abrasive to both recoil and gas operated mechanisms

- 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.
- LUBRICATION reduced friction between moving parts and minimizing wear and the build-up of wear-related debris.

## **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°F to +150oF. 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**

PROPERTIES	TEST METHOD	ROYCO® 634E
Kinematic Viscosity, cSt	ASTM D445	
@ 40°C (104°F) – with solvent		14.6
@ -40°C (-40°F) – solvent evaporated	ASTM D445	<-63 (<-53)
Pour Point, °C (°F)		120 (248)
4-Ball Wear, 40 kg, 1200 rpm, 75°C, 1 hour, mm		0.34
API Gravity, 15.6°C		29.8
FALEX Load Carrying Capacity, lbs		Pass
Acid Number, mg KOH/g	ASTM D2532	11.6
Salt Spray Corrosion Resistance, 100 hrs, sandblasted panels	ASTM D2270	Pass
Humidity Cabinet Rust Resistance, 120°F, 100% RH, 900 hrs.	ASTM D97	Pass
Water Displacement and Stability	ASTM D664	Pass
Metal Corrosion Test, wt change mg/cm2 130°F, 168 hrs	MIL-PRF-63460E	
Zinc		0.00
Aluminum		+0.02
Brass		+0.07
Steel		+0.03
Copper		+0.01
Magnesium		
Cadmium		+0.02
Reactivity with Chemical Agent Detector		
M8 Detector		Pass
M9 Detector		Pass

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





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