

# Compatibility Guide for Polyol Ester Fire-Resistant Fluids with Common Materials

Precision Inspection, Lubrication with Confidence.



## Contents of this Detection

COMPATIBILITY OF  
POLYOL ESTER FIRE-  
RESISTANT FLUIDS WITH  
COMMON MATERIALS

## 1. Introduction

Ensuring compatibility of polyol ester fire-resistant fluids with the components and replacement parts in the system is crucial for maintaining the proper operation of equipment. This guide provides general recommendations, but due to the complexity of actual applications, it is advised to conduct compatibility testing of composite products before use to ensure their in-service performance.

## 2. Compatibility of HFDU with Common Materials

Elastomers	Compatibility
NBR	Compatible
CR	Compatible
FPM	Compatible
AU	Compatible
PTFE	Compatible
EPR; EPDM	Compatible

Coatings	Compatibility
Epoxy Paint	Compatible
Phenolic Resin Paint	Compatible
General Paint	Not Recommended

Plastics	Compatibility
Nylon	Compatible
Polypropylene	Compatible

Composites and Metals	Compatibility
Fiberglass	Compatible
Diatomaceous Earth	Compatible
Zinc	Compatible
Cadmium	Compatible
Aluminum	Compatible
Magnesium	Compatible
Stainless Steel	Compatible

Compatibility Table of Common Base Oils with Plastics

Item	Mineral Oil	PAO	Ester Oil	PAG	Silicone Oil	PFPE
ABS	●	●	●	●	●	●
PA	●	●	●	●	●	●
PAI	●	●	●	●	●	●
PBI	●	●	●	●	●	●
PC	●	●	●	●	●	●
PE	●	●	●	●	●	●
PEEK	●	●	●	●	●	●
PF	●	●	●	●	●	●
PI	●	●	●	●	●	●
POM	●	●	●	●	●	●
PPO	●	●	●	●	●	●
PPS	●	●	●	●	●	●
PSU	●	●	●	●	●	●
PP	●	●	●	●	●	●
PTFE	●	●	●	●	●	●
PVC	●	●	●	●	●	●
TPU	●	●	●	●	●	●

● Good Compatibility   ● Partial Compatibility   ● Not Compatible

### 3. Insulated Wires

The surface of insulated wires should be covered with a material resistant to polyol ester fire-resistant fluids. Recommended covering materials include polymers such as nylon, silicone rubber, polyethylene, and polypropylene. PVC is not recommended as a covering material.

### 4. Filters

Polyol ester fire-resistant fluids are compatible with most common filtering media, including paper, cellulose, synthetic fibers, and metals. When selecting a filter, special attention should be paid to the compatibility of the filter seals, coatings, and adhesives with the fluid.

### 5. Metal Materials

Polyol ester fire-resistant fluids have no adverse effect on nearly all metals and are compatible with materials such as carbon steel and stainless steel. In environments involving chlorine gas or caustic soda, it is recommended to use stainless steel.

### 6. Paints and Coatings

Standard paints and coatings are usually not compatible with polyol ester fire-resistant fluids. Epoxy paints, phenolic resin paints, and polyurethane paints are compatible with polyol ester fire-resistant fluids. It is recommended to keep all internal tank surfaces bare.

### 7. Other Hydraulic Fluids

It is not recommended to mix polyol ester fire-resistant fluids with other hydraulic fluids, as this may cause incompatibility with synthetic rubber, foaming, or reduced fire resistance. Water-based fluids are incompatible with polyol ester fire-resistant fluids and should never be mixed.

