

# CASE STUDY

**[MIDEL®]**  
SAFETY INSIDE

**PROJECT:** Landmark museum retrofill | London, UK

**ESTER TYPE:** MIDEL 7131 synthetic ester

**PURPOSE:** Fire safety for heritage building

## [ OVERVIEW ]

In previous decades, a heritage building in central London had been fitted with five 800kVA transformers, each using mineral oil as the insulating liquid. Because of regulatory changes over the years, the installation no longer complied with BS EN 61936-1:2010, both in terms of fire protection and the need for containment.

The building's management team was therefore faced with the challenge of finding a way to bring the museum into compliance with the building standard, without modifying any of the outer walls and architectural features - key elements of the building's historic stature.

This is a classic example of how MIDEL ester transformer fluids - in addition to being fire safe and biodegradable - also deliver additional benefits to transformer owners that can add up to major financial savings.

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# CASE STUDY



## [ SITUATION ]

There was no space within the existing structure to install fire suppression systems and due to the age of the building it was not possible to demolish walls to increase the footprint area to gain more clearance. Therefore the customer was faced with a schedule of invasive construction, prolonged outages and the expense of installing fire prevention systems.

## [ RESULT ]

After reviewing a range of options to meet the BS EN 61936-1:2010 requirements, the decision was made to upgrade the mineral oil transformers by refilling them with an ester-based K-Class insulating fluid – MIDEL 7131 synthetic, biodegradable ester fluid.

MIDEL Service Partner Eden Transformer Oil, a company specialising in on-site oil purification and replacement, was brought in to perform the refilling process. Each transformer was refilled in-situ during one weekend day per transformer. The mineral oil was removed from the site to Eden Transformer Oil's licensed waste oil storage site and the units refilled with MIDEL 7131.

A professional transformer retrofit requires dedicated MIDEL 7131 equipment, procedures and trained staff. The process includes allowing time to remove excess oil, heating the ester fluid to 60-80°C, further cycles of purification via vacuum dehydration plant and the addition of new gaskets.

Using MIDEL 7131, with its high fire point that makes transformer pool fires virtually impossible, meant that the requirements of BS EN 61936-1:2010 could be met without inflicting costly and intrusive building works.

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“Dealing with such an iconic landmark, extensive building alteration was never an option. Using MIDEL 7131, with its high fire point that makes transformer pool fires virtually impossible, it meant we could satisfy the requirements of BS EN 61936-1:2010 without inflicting costly and intrusive building works.”

Neil Denbow,  
Director, Eden Transformer Oils

The use of MIDEL ester fluids in this project supports the following UN Sustainable Development Goals:

