

Increased Fire Safety

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Transformer fires are particularly unforgiving, spreading very quickly and causing extensive damage, often with the tragic loss of human life. In short, transformer fires are an everyday occurrence in power networks worldwide.

MIDEL eN 1215 offers the perfect solution in terms of fire risk mitigation. With a high fire point and certified as a less flammable fluid, MIDEL eN 1215 joins a set of dielectric liquids that have an impeccable 100% fire safety record since their introduction in the 1970s.

FM Global® and Underwriters Laboratory, two internationally recognised insurance companies, have listed MIDEL eN 1215 as a less flammable fluid for dielectric purposes. This means it requires lower fire safety measures than mineral oil. In addition, MIDEL eN 1215's fire safe properties allow for use in transformers inside buildings and other critical areas where mineral oil would not be acceptable.



Flash and Fire Point

MIDEL eN 1215 has been specifically formulated to give a high flash and fire point, well in excess of those required for less flammable status and far superior to mineral oil (Table 1).

The high fire point of MIDEL eN 1215 ensures that it will be very difficult to ignite and that the risk of pool fires is all but eliminated. In addition, being a listed less flammable fluid, MIDEL eN 1215 benefits from reduced equipment spacing requirements, as specified in the National

Table 1 - Flash and Fire Points

Parameter	Test Method	MIDEL eN 1215	Mineral Oil
Flash Point	ISO 2592 / ASTM D92	>315°C	160°C
Fire Point	ASTM D92	>350°C	170°C
Net Calorific Value	ASTM D240-02	37.5MJ/kg	46.0MJ/kg

Data quoted above are typical values

Electrical Code (NFPA 70), section 450-23. Further recommendations for less flammable fluids can be found in the FM Global loss prevention datasheet 5-4 'Transformers'. By applying the FM Global advice significant space savings can be made, especially for small to medium power transformers filled with MIDEL eN 1215. Figure 1 shows a

comparison of transformer installations with mineral oil and FM Approved fluid, in the volume range 19,000-38,000L. An additional benefit from these recommendations would be shorter LV cable runs and hence lower losses.

Figure 1 - Example installations, mineral oil and FM Approved fluid

