



ELECTRICAL OIL SERVICES

EOS® ATS

Insulating Oil - Acidity Testing Solution

Description

Acidity Testing Solution is produced to enable a simple indication of the level of acidity within insulating oils, to be carried out on site. The presence of acidity is an early indicator that there is potential for corrosion within the transformer and related equipment in the presence of water.

Application

EOS® ATS is formulated utilising a solvent which is miscible with mineral insulating oils, together with a fixed proportion of alkaline reagent and a colour indicator. Individual bottles = 205mL.

The method for testing, see **Test Method** section, is straightforward and provides a clear yes/no indication of the approximate acidity level of the oil being tested. While not intended for precise determinations, the solution can be used to obtain a more accurate result by making additions of only 1 mL increments and reading the result from a graph based on the figures provided in the table (Figure 1).

However, if there is any doubt about apparent test results, the oil should be referred to a properly equipped and accredited Laboratory, such as the EOS Laboratory in Ellesmere Port or an independent Lab, which can be recommended by your EOS contact. Test in accordance with IEC 62021-2a or 62021-1

Note

The solvent used in the Acidity Testing Solution is **Highly Flammable**
Please consult the material Safety Data Sheet for all related information.

The shelf-life of Acidity Testing Solution should be considered as 4 months in the manufacturers sealed containers.

Health and Safety information is available for all Electrical Oil Services products from your EOS representative or via our Customer Service team using the contact details below.



Test Method

1. Pour 40mL of the insulating oil into a 100mL measuring cylinder and add the blue test solution, 5mL at a time.
2. After each 5mL addition of the test solution, stopper the cylinder, shake well and observe whether the resulting colour is yellow or blue.
3. Continue the addition of test solution and repeat step 2 until a blue colour is maintained in the oil.
4. The approximate acidity of the insulating oil in mgKOH/g can be determined from the table below (Figure 1.)
5. For intermediate acidity levels, modify the sample size / test solution quantity in accordance with the table below (Figure 1.) Repeat steps 2 and 3.

Figure 1.

Acidity Test Solution (mL)	5	10	15	20
Acidity of oil (mgKOH/g) using a 10 mL sample	0.4	0.8	1.2	1.6
Acidity of oil (mgKOH/g) using a 20 mL sample	0.2	0.4	0.6	0.8
Acidity of oil (mgKOH/g) using a 30 mL sample	0.15	0.3	0.45	0.6
Acidity of oil (mgKOH/g) using a 40 mL sample	0.1	0.2	0.3	0.4

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