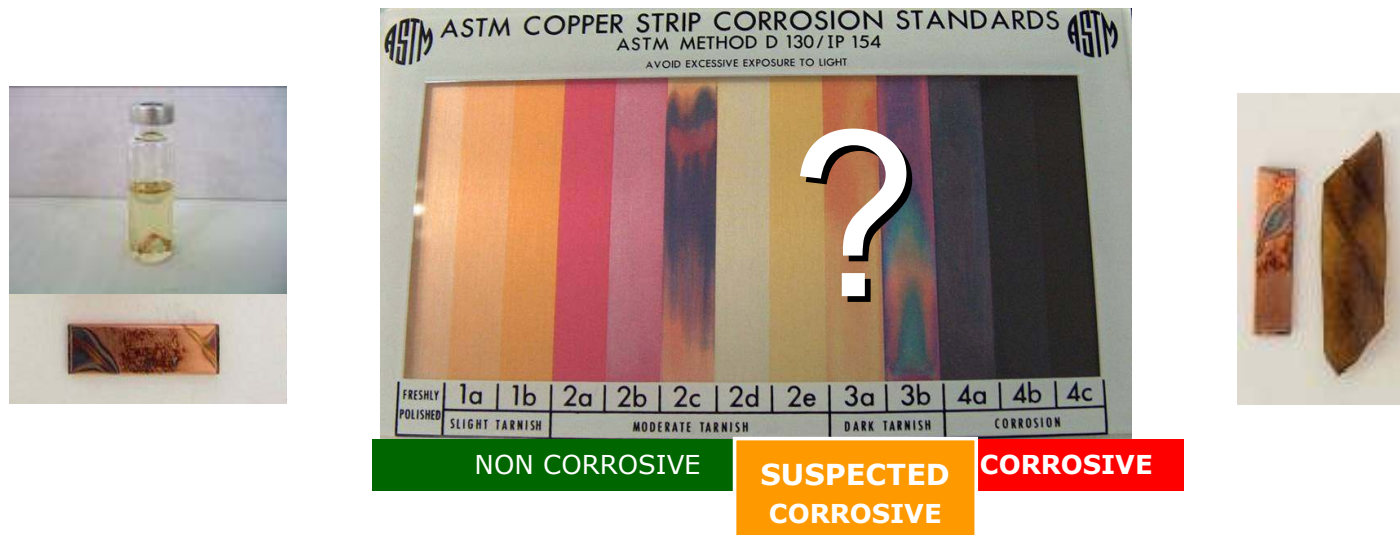


PROBLEM: ANY DOUBTS ABOUT CORROSIVENESS OF OIL?

IEC 62535 2008: "...detection of **potentially** corrosive sulphur..."



SOLUTION: KIT SM-TCS

(Sea Marconi -Total Corrosive Sulfur – patent pending 2008)
is the effective and reliable solution for quantitative determination
of the level of corrosivity of an insulating liquid



It's the first time the **TOTAL
CORROSIVE SULFUR IS
QUANTIFIED [mg/Kg]**



**Absolut certainty of corrosiveness
or non corrosiveness of oil**



since 1968
SEA MARCONI
www.seamarconi.com

Current analytical methods for “**potentially**” corrosive sulfur (IEC 62535 - 2008) determination bring about purely qualitative results. They rely on a simple visual comparison between the appearance of a copper strip, subject to the action of corrosive oil, and standard pictures of a colour matching system. These very empirical methods are often a source of misinterpretation and doubt more than a guarantee of an accurate response.

In 80% of cases of **oxidised oils** the appearance of copper strip and paper, at the end of CCD test (IEC 62535) can become so dark and “dirty”, that the oil should be classified corrosive even if it is not (“**False Positive**”). On the other hand, there are **100%** cases where CCD and ASTM tests provide “**False Negative**” results due to the presence of **passivating additives** in the oil that disguise the corrosive effects of sulphur containing compounds.

By means of the disposable SM-TCS kit (Sea Marconi **patent pending 2008**), corrosive sulfur is quantitatively assessed, the presence of passivating effects is revealed and any doubt concerning corrosiveness is dispelled.

Sea Marconi is able to offer a very effective and reliable **solution for the determination of Total Corrosive sulfur**, despite the presence of **passivating additives**.

Sea Marconi can offer a **full package** that includes two sets of equipment. The consumable set and the durable set. The former is made up by reagents and disposable tools, the latter includes all the appliances (e.g. heater), necessary to perform the various steps that lead to the results.

The **SM-TCS (Sea Marconi -Total Corrosive Sulfur)** test can be carried out by non-specialized personnel. However, Sea Marconi, offers a comprehensive **training service**. The disposable and portable kit SM-TCS by Sea Marconi can be used in any place and does not require a laboratory facility.

The test **SM-TCS by Sea Marconi** provides a quantitative datum and is not based on an empirical understanding of how the appearance of copper strips and paper varies, all interpretative doubts brought forth by ASTM and IEC standards are driven out.

In case of interpretative uncertainties IEC 62535 standards itself (2008) suggests to carry out other analyses, and in particular SEM-EDX (electronic microscope). This technique is very expensive and not easily accessible; furthermore it still provides a qualitative results about copper sulfide presence, investigating on small portion of a non-homogeneous specimen. Whereas **SM-TCS** by Sea Marconi:



is the only system able to provide an unambiguous, precise and quantitative response whether an oil is corrosive or not.

Strong points:

- Total Corrosive Sulfur quantification until **3 mg/kg**
- Disclosure of passivating effects inside the oil
- Resolution of any interpretative doubt
- Significantly reduced time for final response (**16 vs 75 hours**)
- No lab facilities required and on-site applications

Validation:

- ✓ Tests in laboratory on **1000 samples**
- ✓ **2 International Round Robin Test (IEC TC 10 WG 37)**
- ✓ **2 years of R & D**

