

# POSITIVE MATERIAL IDENTIFICATION



**TOMTEC NDT MARINE SERVICES PTE LTD**

**POSITIVE MATERIAL IDENTIFICATION (PMI)** is one of the more specialized non-destructive testing methods. With positive material identification, the alloy composition of materials can be determined. If a material certificate is missing or it is not clear what the composition of a material is, then PMI offers the solution. Because specifications for materials used in industry are increasingly more specific, the need for PMI testing has been on an increase for the past several years.

A rapid, non-destructive method, positive material identification is performed on a wide range of components and assets and provides a semi-quantitative chemical analysis. It is used for both material verification and identification.



Periodic plant maintenance shutdowns are less frequent and consequently the materials used in the plant are in use longer. A wider variety of alloys that are indistinguishable to the eye are being used in process plants. When facility and inspection staff replace components, they must be able to guarantee that the new part matches required specifications.

Typical methods for PMI include X-ray fluorescence (XRF) and optical emission spectrometry (OES). TOMTEC carries out PMI using the latest portable analyzers. Test results are summarized in an inspection report.

#### **TOMTEC applies PMI:**

- ✓ To test ferrous and non – ferrous metallic materials, stainless steels, Monels, Inconels, Hastelloys, Aluminum Alloys, Nickel based alloys, etc.
- ✓ While verifying compliance in power and petrochemical industries
- ✓ Plant inspection and failure analysis
- ✓ Incoming, in service and in-stock materials
- ✓ Selecting scrap metals
- ✓ To inspect welds and weld overlays
- ✓ To verify compliance of new and in – service pressure vessels, plate materials and structural steel
- ✓ To inspect valves and valve components, pipes, fittings, machined parts, castings, forgings, bolts and stock items



#### **Advantages**

- ✓ Rapid and accurate analysis
- ✓ Highly portable digital technology can be used on site
- ✓ Leaves no traces of testing on test sample
- ✓ Direct display for instant results
- ✓ Fast audit times
- ✓ Reduced risk of company liability with documented information
- ✓ Recorded memory for data transfer of test series
- ✓ Certified components requiring NACE MR0175/ISO 15156

TOMTEC has sound experience in XRF Spectrometry. Our trained and qualified technicians use state of the art hand held XRF analyzers. Our PMI procedures conform to the following codes and their related PMI specifications such as **ASME, ANSI, API, ASTM, etc.**

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