Document Title: Procedure for Positive Material Identification (PMI)

1.0 SCOPE

This procedure covers identification and segregation of ferrous and non-ferrous materials.

PMI Check

2.0 PERSONNEL

Personnel shall be familiar with safety rules about radiation.

3.0 METHOD

EQUIPMENT:

X-ray fluorescence (XRF) Analyzer. This may be of Bruker, Niton, Oxford, Olympus OR Equivalent make.

Surface Preparation:

The surface to be tested should be clean and free of scale, oil, grease, coating, contamination, etc. that could affect the results. In case of Alloy Steels, the part to be tested has to be ground with a regular grit grinding/buffing wheel to remove any surface scaling / coating etc. Other surfaces may be lightly hand polished with Sand Paper to ensure accurate results.

Setting up the equipment:

The equipment has to be started and the hardware initialized. Calibrate the instrument with the calibration procedure provided in the software of the instrument. The instrument is now ready for testing.

Testing:

Hold the instrument efficiently to cover the full window. Then start the instrument and allow the x-rays for the predetermined integration time. The display unit displays the (grade) quality of the material and also the % range of the desired material. Due to the inherent accuracy limitations, the machine may be allowed tolerance of 10% over and under the Material Specification requirements. If material still does not fall in the required grade, then the material is 'rejected'. Mark the rejected material with a cross using a marker pen. The accepted materials may be marked with "PMI OK". Reports are generated where required.

Check the instrument battery. If battery charge is below 20%, then recharge the battery.

The PMI Machine shall be checked at least once a year or after any damage and/or repair.

SAFETY:

All required safety precautions shall be ensured (Safety Shoes, Safety Helmet, Safety Gloves, Safety Goggles, etc). Ensure X-rays do not come directly in contact with any body part.

4.0 RESPONSIBILITY

This procedure is the responsibility of the PMI Machine Operator and QC Engineer.

5.0 REFERENCES

Machine Manufacturer's Manual
ASTM E 1476
Material Standards ASME, ASTM, IS, DIN, EN, etc

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POSITIVE MATERIAL IDENTIFICATION REPORT

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PMI Report No.		Client	
Dated		PO No.	
Instrument Type / ID :		Bulk Item Type	
		Material Specification / Grade	
Model S1 TITAN Sr. No. 20HN2270		Operator Name	

RESULTS

Regd. Item / Sr.No.		ALLOY CONTENT WEIGHT PERCENT				REMARK
Elements		Cr%	Ni%	Mn%	Grade	Accept /Reject
Specified range						
Actual Observations						

PO Sr. No.	QTY	Description	HEAT NO.					

SAMPLE FORMAT

Client | Authorized Signatory

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