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Information File Note

TOPIC: Quality Management

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QUALITY MANAGEMENT

PAM Access Covers and Gratings technical leadership position for innovation and manufacture of municipal castings, is underpinned by our commitment to a stringent quality management system.

Municipal castings are safety critical products, therefore every stage of the design and manufacturing process of the Pamrex, Rexus and other products in the range are undertaken within an independently audited ISO 9000 series quality management system, at our wholly owned production facilities.

There are a number of critical points which should be understood by end clients:

1) ISO 9000 SERIES ~ All Saint-Gobain foundries currently supplying municipal castings are certified through the ISO 9000 series. This covers design and manufacture and ensures the consistency of process and product.

2) EN124 PRODUCT STANDARD ~ The product standard is widely regarded as the toughest municipal casting standard in the world. As part of the requirement independent auditors visit our manufacturing facilities to audit our quality management systems and conduct random testing of products. A requirement of the product standard is that the foundry is also certified to ISO 9000.

3) INDEPENDENT TEST BODIES ~ The independent test bodies or 3rd party certification bodies that are utilised by Saint-Gobain are all internationally respected companies. We predominantly use the British Standards Institute (BSi) and AFNOR. We also have linkage with a number of other certification bodies which are used on a periodic basis dependant upon country of operation.

4) EN45000 SERIES ~ Each independent 3rd party certification body that is used also complies with the requirements of the EN45000 series. In effect this is the 'standard or practice' that the certification body must adhere. This is the 'check given to the checkers' and is generally conducted by a national public agency e.g. in the case of the UK the auditor is UK Accreditation Service or UKAS.

5) INTERNAL TESTING PROCEDURES ~ A number of tests are carried out during the manufacturing process. These include:

    a. Raw materials ~ all batches of scrap steel are tested for the presence of unwanted metals e.g. nickel / chromium etc and for their level of radioactivity. Ensuring the consistency of the raw material is the first step in ensuring consistency of end product.

b. Metal composition analysis ~ This is conducted by 'Wave Dispersive Spectroscopy' post to metal melting and prior to metal pour. Immediate results are gained from in-factory laboratories in order to immediately determine suitability of melt prior to moulding. This ensures that the end product has consistent and suitable metal chemistry.

c. Mechanical Performance ~ A number of mechanical performance tests are also routinely taken during the process to ensure consistency and compatibility with the requirements of ISO 1083 / ASTM A536. For all batches of product manufacture these include:
    i. Tensile tests
    ii. Yield tests
    iii. Elongation tests

d. Quality Inspection ~ Each product is routinely examined for defect during the process of assembly and packaging. This ensures that obvious errors are avoided.

e. Random Sampling ~ In addition random sampling of final product is routinely taken from each batch and tested for number of requirements including dimensional tolerances, load performance, general application suitability and aesthetic appearance.

6) DYNAMIC ROAD TRIAL TESTS ~ Not only do we endeavour to test our products through the conventional methods of static loads tests and standard dimensional and metal tests we also conduct road trials and high speed laboratory testing. I have attached a short video clip of the type of monitored testing that is conducted.

This short note is provided to give an indication of the type of quality procedures in place during the manufacture of PAM Access Covers & Gratings.