

A SAMPLE QUALITY ASSURANCE PROGRAMME FOR MANUFACTURING OF GIC

An effective Quality Assurance (QA) Programme should be followed during the manufacturing process of GIC to ensure that a good quality product as per the design, drawings and specifications is delivered for the safe operation and handling by the users.

The following QA aspects should be adhered to during manufacturing with duly observing applicable industrial safety standards:

- (a) All materials used for fabrication should comply with the standards specifications. They should be properly marked and correlated with the mill test reports or supported by test certificates from accredited laboratories. Copies of all approved test reports and certificates should be documented.
- (b) Bought out components should be inspected and approved /certified by the manufacturer and the compliance certificates should be submitted.
- (c) All the weldings and their NDT tests should comply with requirements of ASME Boiler and Pressure Vessel Code (Section IX).
- (d) Radiographic tests (RT) of welding should be carried out as specified in individual drawing as per the acceptance criteria in Section - V of ASME Boiler and Pressure Vessel Code.
- (e) Inspection/verifications of dimensions and alignment of sub-assembly/ assembly should be carried out at various stages of fabrication, including tests like hydrostatic pressure and lead filling etc.
- (f) The fabricator should prepare a detailed lead pouring procedure with approval of manufacturer. Lead pouring should be done in a single, continuous operation ensuring that no high, local/ streaming radiation (hot spots) observed at the outer surface of the container.
- (g) The integrity of casted lead should be checked by radiometric test by using an appropriate radioactive source and detector.
- (h) Documentation and records should be maintained pertaining to various stages of fabrication and testing of the unit.