



Ente Certificazione Macchine

Via Ca' Bella, 243 – Loc. Castello di Serravalle

40053 Valsamoggia (Bologna) – Italy

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SIL – SAFETY INTEGRITY LEVEL

Compliance solutions for manufacturing processes

IEC/EN 61508 and 61511 standards define SIL requirements for the safety of electrical and electronic systems. ECM performs assessments on products and large-scale plants (chemical, power, oil & gas) through design analysis, reliability testing, and full lifecycle evaluation.

ON-SITE INSPECTION AND DATA COLLECTION

Following a detailed analysis of the plant and site-specific characteristics, ECM develops a tailored commercial proposal. On-site activities are performed in close coordination with the client's designated personnel.





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PRELIMINARY ANALYSIS

- Life Cycle Analysis (or Safety Life Cycle Analysis)
- Reliability Analysis for the determination of Failure Rates
- Design Analysis: determination of SFF (Safe Failure Fraction) and HFT (Hardware Fault Tolerance) parameters
- Definition of SIL levels (1, 2, 3, 4)
- Supervision of laboratory testing

ASSESSMENT AND REPORTING

The activity includes:

- identification and assessment of the required actions;
- identification and assessment of the available options;
- identification of safety evaluation criteria;
- evaluation of the effectiveness of the measures implemented.

Upon completion, ECM issues a technical summary report of all assessments performed, which serves as a certificate of compliance.

VALIDITY OF THE ASSESSMENT

The verification and certificate of compliance are valid for one year for the first year and, subsequently, for 3 years for EN/IEC 61508, subject to annual surveillance audits by ECM. For standards derived from EN/IEC 61508, the validity varies according to specific reference standard.

