



Structural Assessment

Ensuring safety is the most important aspect of any engineering industry and EASL are experts at ensuring every step is taken to give our clients the very best and clearest structural integrity assessment available.

EASL can offer clarity through expert structural integrity analysis, giving the best information from which clients can make decisions ranging from life extension and remedial work to operating standards. From structures in the civil nuclear, power generation and defence industries through to more public facing commercial structures, EASL's expertise can give an invaluable insight.

What is Structural Assessment?

Structural assessment is a comprehensive treatment of structural requirements and performance, taking into consideration the conditions under which the structure must function, including normal operating conditions as well as occasional and fault loadings, their frequency and duration, environmental conditions and the level of integrity required.

The types of loading included in structural assessments are those integral to the normal functioning of the structure such as self-weight, internal pressure and high temperature environments as well as those due to rare or infrequent events and hazards, e.g. seismic events or extreme weather.

Structural assessment covers the full range of applicable failure modes (e.g plastic collapse, creep rupture, buckling, fatigue, fast fracture) and typically incorporates the use of design codes as well as other formal assessment procedures to assess, for example, tolerance of the structure to defects.

The concept of failure tolerability is central to structural assessment, and is based on consideration of the consequences of failure of the structure or component, including the existence of lines of protection and mitigation. Failure tolerability is a crucial factor in determining the level of structural assessment required.

EASL's Structural Assessment Service

EASL have years of experience in a range of structural assessments, including high integrity structures and components such as pressure vessels, industrial pipework and nuclear reactor components. Our services are applicable and transferrable to any engineered structure, each assessment taking our client's needs and the context of the work into account.

The levels of structural assessment that we use allow different approaches to be taken for different structure-loading combinations, depending on the failure tolerability of the structure and the likelihood of a particular type or magnitude of loading. For example, a structure must remain functional under normal load conditions during its projected service life, however it may be acceptable for the structure to suffer damage, short of complete failure, during an extreme loading event. Our structural assessment offers a bespoke package specific to each clients' needs.

As well as considering the capability of the as-built structure, structural assessment may consider susceptibility to degradation through mechanisms such as corrosion, creep, and fatigue and appropriate inspection regimes may be recommended.

From here, we produce an in-depth report for the client, outlining our findings with clarity to provide the information required to make important business decisions.

Taking into account environment, client needs and real world conditions, EASL take the whole context of work into account, providing structural assessment that is not only honest and independent, but also fitting to our client's needs. Our services produce quick, cost effective results, built on our years of experience and long term knowledge base.



With decades of experience, our highly trained specialist engineers can provide the best niche service for your structural integrity assessment needs. As experts in both structural assessment approaches, software and the latest research, we take ownership of our client's problems and deliver an outstanding service to help bring clarity and assurance.

To find out more about our structural assessment service, have a look at our case studies and relevant services below, or if there's something specific you'd like to discuss, please email us on enquiries@easl-stress.co.uk

Related Services

- Computational Fluid Dynamics (CFD)
- Finite Element Analysis (FEA)
- Peer Review