



Industrie Service

**Choose certainty.
Add value.**

Building Safety – 2-Stage Safety Approach by TÜV SÜD

A Product Information Sheet by the Civil Engineering Business Area

Operators of buildings accessed by the public carry a lot of responsibility. Collapse scenarios demonstrate time and again that safety measures are essential.

For years, TÜV SÜD construction experts have inspected the design and construction of public halls, focusing in particular on their load-bearing capacity. Empirical values collected so far have shown that problems with load-bearing capacity are not caused by extraordinarily high loads (e.g. snow loads). A key role in this context is played by the structural condition of the support structure and the type of structural design.

2-Stage Safety Approach by TÜV SÜD

To ensure long-term structural stability and safe use of your building, we developed a safety approach which takes the individual features of your building into account.

In stage 1, the building is examined to verify whether it poses any risks. If this is the case, an in-depth inspection will be carried out in stage 2.

Stage 1:

Identify and exclude risks

- Review of structural analysis and construction plans.
 - Review of key documents including documents on joints and connecting elements for completeness and plausibility.
 - Verification of supporting structure, bracing and critical areas.

Review focuses on determination of the safety level and key points of inspection and is followed by:

- On-site inspection to identify the type and general condition of the construction:
 - Visual inspection of the construction to verify compliance with the structural analysis and detect visible damage, if any.
 - Visual inspection of roof insulation at representative points.
 - Visual inspection of reliable functioning of roof drainage.



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The results are documented in a brief expert report including photo documentation and in a safety-risk estimate.

For supporting structures with simple and clear support performance not involving any danger of sudden failure or risks from load, building physics, drainage etc. which do not indicate any damage such as traces of corrosion, cracking etc., testing ends here.

If initial inspection reveals the construction to be a complex/critical one, we recommend one or several of the following detailed inspections depending on the individual stage 1 result:

Stage 2:

Examine and evaluate risks

- Testing of all accessible areas of the supporting structure, roof insulation and drainage for defects or damage.
- Inspection of all structurally relevant components for cracking, deformation or moisture, efflorescence and chipping.
- Inspection of the vicinity of connections and joints for visible cracking and/or firm seat.
- Measurement of moisture levels at selected points in wooden parts.

- Taking of component samples to analyse wood strength and subject the wood glue to mechanical testing.
- Measurements and, where appropriate, laboratory analyses.
- Rough comparisons of structural analyses.

Following completion of all tests and inspections you will obtain a detailed expert report including photo documentation plus documentation of the status quo of the components. Additionally, our experts will recommend preventive action to be taken by you.

Upon request, we will also recommend reasonable and cost-efficient repair and restoration measures.

Your benefits

- ▶ You benefit from certainty about your building's actual condition.
- ▶ You obtain reliable documents.
- ▶ You reduce your liability risk.
- ▶ You obtain reasonable recommendations.
- ▶ You choose impartiality.
- ▶ You build on expertise.
- ▶ You opt for a cost-effective partner.

We have international representation.

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