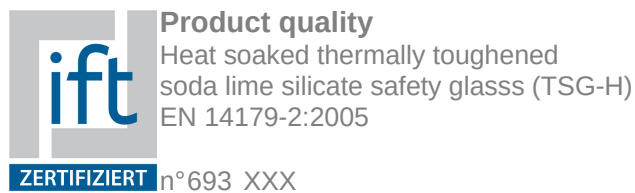


Certification scheme for heat soaked thermally toughened soda lime silicate safety glass (TSG-H) according to EN 14179-2:2005



1 Purpose and scope

This certification scheme defines the requirements and procedure for the certification of heat soaked thermally toughened soda lime silicate safety glass, hereinafter referred to as TSG-H.

Introduction and application of the specified provisions and tests ensure the sustainability of the characteristics of TSG-H demonstrated during initial type testing. The specified requirements go beyond the provisions required by the respective standards and are thus an additional quality feature. This is documented by affixing the "ift-certified" mark.

2 Basis of testing and certification

This Certification Scheme lays down the requirements for certification and surveillance of TSG-H. For certification and surveillance, ift-Q-Zert must be provided with the following evidence or the following basis apply:

- ☐ Test reports according to EN 14179-2:2005 issued by a testing body accredited to EN ISO/IEC 17025 and recognised by ift-Q-Zert,
- ☐ Product documentation for TSG-H for the intended purpose and/or use,
- ☐ Documentation of the mandatory factory production control,
- ☐ Contract with ift-Q-Zert on certification and surveillance of production of the products within the scope of this certification scheme,
- ☐ EN ISO/IEC 17065.
- ☐ "General requirements for certification, surveillance and inspection of products and services" by ift-Q-Zert,

3 Terms and definitions

3.1 Manufacturer

Organization producing heat soaked thermally toughened soda lime silicate safety glass from thermally toughened soda lime silicate safety glass according to EN 12150-2:2005. The following glass products can be further processed into TSG-H by the manufacturer:

- ☐ Soda-lime silicate glass according to EN572-1:2012,
- ☐ Float glass according to EN 572-2:2012,
- ☐ Drawn sheet glass according to EN 572-4:2012,
- ☐ Patterned glass according to EN 572-5:2012 and
- ☐ Coated glass according to EN 1096-1:2012.

3.2 Heat soaked thermally toughened soda lime silicate safety glasss (TSG-H)

Glass is heated above a specified temperature and then cooled rapidly in a controlled manner, creating a permanent stress distribution in the glass that gives it a much higher resistance to mechanical and thermal stresses and has the fracture pattern specified in prEN 14179-1:2001. The glass can also be enamelled according to EN 12150-1:2015 or coated according to EN 1096-1:2012. The additional hot storage of TSG-H minimizes the residual risk of spontaneous fracture due to nickel sulfide inclusions.

3.3 ift-Product Passport

A summary report issued by ift Rosenheim, which determines the performance characteristics of TSG-H specified by the manufacturer and confirms them by testing, calculation or evaluation according to EN 14179-2:2005. This can be used as a basis for the manufacturer's own type test (TT) as part of the CE marking.

4 Certification procedure

- Conclusion of a certification and surveillance contract,
- Definition of the scope of product certification/certificate,
- Evaluation of the test evidences or the product documentation (functional values of the components and supplier products),
- If necessary, initial test (in ift laboratory),
- Compilation of ift Product Passport,
- Initial audit of production site,
- Furnace calibration,
- If the evaluation is positive: Certification.

4.1 Initial test

Within the scope of the initial test, the manufacturer must provide evidence of all product properties included by him in the certification in accordance with the applicable product, testing and/or classification standards. Provided that the product characteristics are not changed by hot storage, the product verifications for thermally toughened safety glass can be used.

The TSG-H shall comply with the definition given in prEN 14179-1:2001.

The mechanical strength test and the evaluation of the fracture pattern are carried out according to clause 5.2.2.2 of EN 14179-2:2005.

An initial test for patterned glass shall be performed in accordance with clause 5.2.2.2 of EN 14179-2:2005 on the weakest patterned glass type as a representative specimen.

For coated TSG-H, the solar characteristics and the emissivity must also be determined during the initial test after hot storage.

The initial test is carried out to the above extent on each TSG-H furnace at the manufacturing plant.

4.2 ift-Product Passport

The manufacturer of TSG-H receives an ift Product Passport after conclusion of the monitoring and certification contract and the positive evaluation of the test evidences within the initial test (see 4.1). The ift Product passport or its elongation is issued for a period of 3 years. Recertification is performed every 3 years. Within this recertification, the validity of the existing evidence and documentation is checked.

4.3 Initial audit

Content and purpose of the initial visit are defined or described by ift-Q-Zert in "General requirements for certification, surveillance and inspection of products and services".

5 Product certificate

5.1 Validity of the certificate

The product certificate is issued for a period of 3 years.

As part of the recertification, a reassessment of the TSG-H is required after 3 years. If there are no changes in the product or in the basics, the certificate will be renewed for a period of another 3 years.

The procedure for modifying or extending the certified scope as well as the suspension and revocation of certification is specified by ift-Q-Zert in the applicable "General requirements for certification, surveillance and inspection of products and services".

The certificate remains valid only as long as the provisions and requirements of this certification scheme as well as the product as such remain unchanged. Any changes to the product that have an effect on the characteristics verified by the initial type test, shall be communicated to the certification body without being asked.

In case of failure to comply with the provisions and measures specified by this certification scheme, the certificate as well as the right of affixing the mark to the respective products, will be withdrawn.

5.2 Marking

The products can be marked by affixing the "ift-certified" mark. The applicable documents listed in Section 2 - procedure and contents of certification - shall be observed. In addition to applying the mark on shipping documents, catalogues, technical documentation, advertising documents or packaging, marking may also be in a digital format.

The right of affixing the quality mark expires automatically by terminating the certification and surveillance contract, or in the event of non-compliance with the criteria laid down by this certification scheme.

6 Third party control

6.1 General

Contents, rights and duties are described by ift-Q-Zert in the applicable relevant documents "General requirements for certification, surveillance and inspection of products and services".

6.1.1 Intervals and contents

The third-party audit is performed once a year in the form of a regular site inspection at the surveilled location (production site).

Following areas are reviewed:

- ☐ Audit/inspection of factory production control
- ☐ Checking of staff qualifications and manufacturing conditions,
- ☐ Furnace calibration of each TSG-H furnace,
- ☐ Inspection for any obvious defects of the measuring instruments used as well as verification of availability of valid certificates referring to calibration and service/maintenance of the measuring instruments. Inspections of measuring instruments must be documented.
- ☐ Inspection of procedure to record and handle customer complaints.

6.1.2 Surveillance report

An audit report is prepared on the findings of the regular audit/inspection. If one or more measured values are beyond the specified limit values, the cause of the non-conformity must be identified and eliminated at short term. After elimination of defects, the certification body decides whether additional quality assurance measures are required (e.g. a special audit/inspection).

6.1.3 Elimination of defects/non-conformities - Special audit

Special audits may become necessary:

- ☐ as a consequence of negative evaluation of a regular audit or
- ☐ complaints received from the market about the certified products

6.1.4 Deadlines to remedy defects/non-conformities

As a rule, the deadline provided for discharge of nonconformities detected during the regular audit should not exceed one month. The deadline provided for discharge of nonconformities detected during the special audit shall be 3 months (as regards the conditions for special audits, refer to "General requirements for product certification").

7 Factory production control

7.1 General

The glass manufacturer undertakes to establish a system of factory production control to assure consistent characteristics of TSG-H. The manufacturer shall name an employee responsible for certification who has the authority, knowledge and experience in the production process. This employee is responsible for due implementation of factory production control. If unallowed non-conformities are detected during factory production control, the person responsible for factory production control shall immediately initiate and document measures to eliminate such non-conformities or defects.

Factory production control includes the following mandatory inspections/tests:

- ☐ Material control/control of incoming goods
- ☐ Production control,
- ☐ Furnace calibration,
- ☐ Product testing,
- ☐ Test equipment monitoring,
- ☐ Treatment of complaints,
- ☐ Inspection of marking.

7.2 Calibration of heat soak oven (heat soak system)

When certification is taken up, calibration of each TSG-H furnace used in the manufacturing plant must be carried out according to Annex A of prEN 14179-1:2001 by the surveillance body or by a body recognized by ift-Q-Zert. This initial calibration must be repeated after 12 months and then every 5 years as well as in case of renovations or relevant changes to the furnace.

A reduced furnace measurement is carried out as part of the annual surveillance. This reduced furnace measurement is performed with a furnace load that is normal for production or with the furnace load available in the audit. Within the calendar year in which a furnace calibration according to Annex A of prEN 14179-1:2001 is or was performed, no reduced furnace measurement takes place.

If inadmissible deviations are detected during calibration/reduced furnace measurement, then after appropriate corrective measures have been taken by the manufacturer, this procedure must be repeated within 6 months of the deviation being detected.