# Heat-Soak-Test

Comparison between DIN 18 516/4, standard draft EN 14179-1 and Bauregelliste 2002/1, Anlage 11.4

<table>
<thead>
<tr>
<th>1. Production</th>
<th>DIN 18 516/4</th>
<th>Standard draft prEN 14179-1</th>
<th>Bauregelliste Ausg. 2002/1, Anlage 11.4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1 Heating-up phase</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- starting of heating phase</td>
<td>no figures available</td>
<td>as the entire glass has ambient temperature</td>
<td>no figures available</td>
</tr>
<tr>
<td>- temperature gradient</td>
<td>no figures available</td>
<td>no figures available</td>
<td>max. 2 K/min</td>
</tr>
<tr>
<td>- air temperature inside oven</td>
<td>no figures available</td>
<td>might exceed 320°C</td>
<td>no figures available</td>
</tr>
<tr>
<td>- max. temperature at glass</td>
<td>no figures available</td>
<td>might not exceed 320°C; 300°C might be exceeded for short time</td>
<td>might not exceed 320°C; 300°C might be exceeded for short time</td>
</tr>
<tr>
<td>- end of heating-up phase</td>
<td>no figures available</td>
<td>as the surface temperature of the last glass sheet has reached 280°C</td>
<td>as the entire glass bulk has reached a temperature of at least 280°C</td>
</tr>
<tr>
<td><strong>1.2 Holding phase</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- holding time</td>
<td>8 hours</td>
<td>2 hours theoretically</td>
<td>at least 4 hours (theoretically)</td>
</tr>
</tbody>
</table>
1.3 Cooling-down phase

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Start</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range</td>
<td>no figures available</td>
<td>after finish of holding phase</td>
</tr>
<tr>
<td>Surface temperature of glass</td>
<td>(290±10) °C average oven temp.</td>
<td>as air temperature inside oven has reached 70°C</td>
</tr>
<tr>
<td>Glass bulk</td>
<td>the glass bulk must not short time exceed or fall below a range of 280 to 320°C, preferred range: 290 to 300°C</td>
<td></td>
</tr>
</tbody>
</table>

2. Certification/calibration

The HST-oven is calibrated acc. to glass temp. and operated acc. to air temp. This results in prolonging of holding time for the period between reaching of nominal air temperature and the time in which the last glass sheet has reached 280°C.
The exact nominal air temp. and prolonging of holding time is decided by the calibrator.

- recommended sheet distance
  - no figures available
  - 20 mm

- level of load
  - no figures available
  - 10% load
  - 100% load

- measuring points for surface temperature
  - no figures available
  - acc. to figures A2 to A9
  - 20 measurement points

- start of calibration
  - no figures available
  - air temperature must not exceed 35°C
  - no figures available

- recording of following parameters
  - no figures available
  - temperature control element
  - time, after reaching 280°C by the last thermocouple
  - maximum temperature of the control element during heating-up phase
  - temperature of glass surfaces
  - all essential oven data
    (temp.-time diagram of circulating air, position of thermocouples etc.)
  - description of minimum and maximum load conditions
  - initial test and regular outside monitoring by an approved certification body

*)

DIN 18 516/4
  = outside wall curtains rear ventilated
  = single sheet safety glass, requirements/dimensioning/test

standard draft prEN14179-1
  = glass in civil construction; heat soaked thermally toughened soda lime silicate safety glass

Bauregelliste Ausgabe 2002/1; Anlage 11.4
  = rules for production of heat soaked single sheet safety glass (ESG-H)