

ENGINEERING



STEEL

innovation
ENGINEERED IN GERMANY

HORN
GLASS INDUSTRIES

ENGINEERING STEEL

After customers have decided on HORN Glass Industries AG as their competent partner for the construction of their furnace, we start working out each specific concept.



The concept phase is as follows:

The first step is preparing a layout customised according to the individual requirements of the refractories, measurements, axes and positions of the individual components such as:

- Flue gas channel
- Regenerator
- Melting end
- Forehearths
- Forehearth substructure / forehearth platform
- Working and maintenance platforms
- Steel chimney

Subject to the customers' approval, the detailed planning of the refractories concept commences. Simultaneously, in cooperation with the customer, the availability of steel profiles on the local/domestic market is established (available profile cross-sections and profile sorts, material quality, etc.)

A structural engineer from HORN determines the loads for the furnace pillars, the forehearth platform support and substructure, the regenerator and the flue gas channel. Thereupon the engineer will examine and establish the necessary profile sizes of the various steel components.

Based on these findings, a 3D concept model for the steel bracings and substructures of the respective plant components will be worked out according to customer requirements. These models are coordinated to the smallest detail within each specialist departments. For the modelling we use Autodesk – Advance Steel.

Simultaneously a 3D layout of the furnace is prepared in Autodesk – NavisWorks format. The NavisWorks viewer will be made available by Autodesk for free download.

Ideally and/or by request, 3D volume models of the refractory components are prepared.

When the concept and modelling stage is finished, HORN will, based on the 3D concept model, prepare the complete documentation of the workshop drawings including the steel parts lists and the classification in components groups for simplified and smooth operation and handling during production and construction. HORN will organise the planning from A to Z. Optionally HORN can also assist with the selection of suitable suppliers.

The assembly overviews created show how the individual assemblies are processed and assembled. The assemblies specified here are again divided into individual component groups due to the individual positioning.

Furthermore, working and maintenance platforms with corresponding stairs are indispensable for the maintenance of the furnace. Therefore a one stage layout which contains a proposal for the positioning of the working and maintenance platforms and of the corresponding stairs is created.

Optionally detailed planning, consisting of workshop drawings including parts lists and assembly plans can be prepared.



Features:

- Country-specific profile established according to availability on the domestic market
- Static examination of the required profiles
- HORN will prepare complete parts lists and organise your planning from A to Z. Alternatively HORN will assist with the selection of suitable suppliers and optionally HORN will also supply the steel construction
- For smooth running the steel planning is divided into individual components groups
- Detailed planning of maintenance platforms included (optional)