SCHOTT AG

Services for the Glass Industry

SCHOTT AG
Corporate Service Melting Technology

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1. **Turn-Key-Projects for Hot End, Melting Devices and Components**

Different melting tanks:

- Air-Fuel (regenerative, recuperative) tanks with/without electrical boosting
- Oxy-Fuel tanks with/without electrical boosting
- Full electrical tanks

Components and Systems:

- Annealing Lehrs, Waste Gas Systems
- Electrodes/Electrode Holders (Mo, Wo, Pt-Alloys)
- Thermocouples
- Bubblers/Bubbler Systems
- Heating Systems (fossil / electrical)
- Bottom Drain Systems
- Forehearth Systems
- Components of Noble Metals (e.g. Stirrers, Electrodes, Forehearth Systems, Feeder, Orifice Rings)
- Components from available Refractory Materials
- Cooling Systems (Air, Water)
- Batch Charging Systems
- Measuring Systems for Hot Ends (e.g. Glass Level Detectors, pO2-Sensors, Furnace Periscopes, Online-Measuring Systems for Waste Gas , Data Loggers and Integration into PLC)

2. **Concept, Layout and Optimizing of Melting Devices and Components**:

- Mathematical Simulation of Melting Devices, Forehearth Systems, Stirrers, Hot Forming Processes and Annealing Lehrs
- Physical Modeling of Stirrer Systems
- Optimized Energy Efficiency by Energy Balance
- Tools for Process Data visualization and analysis; control concepts based on modeling

3. **Project Management for Hot End Projects**

- Procurement
- Construction
- Start up, Ramp up

4. **Services**

- Hot Service on running Systems with skilled Staff (bricklayers, steel workers, thermic process engineers, electricians), e.g. change of components, crown repairs, plating
- Start up and stop of Melting Devices
- Troubleshooting on running Melting Systems by experienced process engineers
- Optimizing of Waste Gas Systems (e.g. conformity with regulations)
- Characterization of waste gas emissions by measurement with mobile equipment
- Glass defect analysis (solid and gaseous)
- Characterization of ceramic and metallic refractory materials with/ without impact of glass melt
- Consulting around the melting technology

5. **Miscellaneous**
   - Recycling of Precious Metal Parts → “New for Used”
   - Production of special refractory for Melting Devices , Forehearth, expendables for Feeders, Tweels and other components made of Quarzal® (fused Silica)
   - Production of samples or small lots made of special glass or glass ceramics (SCHOTT Glass Types or synthesis following customer demands)