# QWISE-FM-SBJSGC-2019-SMG Company Standard

Hunan WISE New Material Technology Co., Ltd.

# Powder sub-factory Powder product production process equipment safety technical regulations

Graphite tube furnace safety technical regulations

Approved by: Zhaohui LIU Prepared by: Liyun Yun Xing Wang
Checked by Technical Dept: Yizhong Zhang and Yongshen Gong
Checked by Sub-Factory: Zhengchen Xu and Zhengdao Xiao
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### Graphite tube furnace safety technical regulations

- 1. Wear overalls, work shoes, gloves, and dust masks before operation.
- Before opening the furnace, first open the exhaust, check the sealing of the furnace door and the furnace body, check whether the push boat device, temperature control instrument, cooling system, etc. are normal or not? And enter an empty boat to the high temperature zone for temperature measurement, and finally notify the duty electrician to send Electric heating.
- 3. When measuring the temperature of the furnace with an optical pyrometer, it should be more than 0.5 meters away from the furnace door to prevent the furnace from injuring people.
- 4. When pushing and unloading, the operator should stand on the side of the furnace door, push and unload first. The door should be closed immediately after pushing and unloading. It is strictly forbidden to open the furnace doors at both ends.
- 5. Stop the furnace under normal circumstances: The boat is propelled according to the process, and the boat can be powered off after the high temperature zone is stopped, and the boat is stopped after the boat is finished. Stop the cooling water after the furnace temperature drops to room temperature.
- 6. Stop the furnace under abnormal circumstances:
- 6.1 Furnace tube oxidation perforation: The boat is propelled according to the process, and the boat can be powered off after the high temperature zone is stopped, and the boat is stopped after the boat is finished. Stop the cooling water after the furnace temperature drops to room temperature;
- 6.2 Furnace cooling water jacket leaking:Immediately power off and close the water jacket cooling water, push the empty boat according to the process, stop the push

boat after the boat is finished, and the uncarbonized material is treated separately;

- 6.3 Furnace cooling water jacket leaking: Immediately power off and close the water jacket cooling water, stop pushing the boat, cool the material at the end of the furnace and then unload it, then unload the high temperature area boat to the end of the furnace and then unload it. Processing separately;
- 6.4 Leakage at the end of the furnace:Immediately power off and close the water jacket cooling water, and push the empty boat one by one, the material boat in the furnace is fully cooled and discharged, and the uncarbonized material is separately processed;
- 6.5 Furnace tube fractureJ:Immediately power off,stop pushing the boat, and the material that can be discharged from the furnace is cooled by the boat and discharged,and the uncarbonized material is separately processed.
- 7. When stopping the compressed air and stopping the cooling water, immediately turn off the power and stop pushing and unloading.
- 8. Stop pushing and unloading during power failure.
- 9. During the production process, it is necessary to check whether the temperature control instrument, cooling water, push boat device, furnace temperature, etc. are normal, and find abnormalities and timely treatment.
- 10. Do not touch the electrical switch with wet hands or metal objects.
- 11. Every class should be cleaned of equipment and on-site hygiene, kept clean and tidy, and tools, materials, etc.should be placed according to regulations.

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