

QWISE-FM-THZDS-2019

Company Standard

Hunan WISE New Material Technology Co., Ltd.

Powder sub-factory

Powder product carbonation process

Operating instructions

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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Carbonization

1 main raw and auxiliary materials

1.1 Main raw materials: mixed powder after blending with carbon.

1.2 main auxiliary materials: graphite boat.

2 major equipment and tools

2.1 Main equipment: graphite tube carbonization furnace, molybdenum wire carbonization furnace

2.2 Main tools: 50kg case scale, 500kg table scale, stainless steel insert barrel, packaging barrel, material shovel, loading and unloading table, optical pyrometer.

3 job quality requirements

The carbonized material is fully carbonized, moderately soft and hard, and the total carbon and free carbon control meets relevant customer requirements and product standards.

4 steps and essentials

4.1 Pre-class inspection.

4.1.1 Carefully read the original records and process notices, clarify the grades of the materials of each furnace and master the process parameters such as the amount of loading (material), the speed of pushing the boat, and the control of the furnace temperature.

4.1.2 Check whether the hydrogen flow of the meter, cooling water, molybdenum wire carbonization furnace or intermediate frequency carbonization furnace is normal, and whether the tools are complete.

4.1.3 When receiving the shift, it is necessary to clarify the inlet and outlet of each furnace, check the furnace temperature and temperature control instrument, understand the adjustment of temperature control, and carefully fill in the succession record.

4.2 Molybdenum wire carbonization furnace, graphite tube carbonization furnace The carbonization process system is issued by the process technician.

4.2.1 Push boat

(a) After the graphite tube carbonization furnace pushes the boat, the furnace door is opened, and the material is smoothly pushed into the boat to close the furnace door. If it is a mechanical push boat, adjust and close the propeller, start the motor, and push the boat.

(b) After the molybdenum wire carbonization furnace pushes the boat to the time, first ignite, then open the furnace door, smoothly push a boat, close the furnace door, and ensure that the venting flame is not extinguished. Start the motor and push the boat.

4.2.2 Unloading

(a) After the unloading time of the graphite tube carbonization furnace is reached, the furnace door is opened, the boat is smoothly discharged from the boat, and the furnace door is closed.

(b) After the unloading time of the molybdenum wire carbonization furnace, it is necessary to ignite first, then open the furnace door, smoothly unload a boat by boat, and then close the furnace door.

(c) The material to be discharged should be carefully cleaned of surface impurities and oxides, and carefully check whether there is carbon black seed in the section, whether the material is too soft or too hard, and make appropriate process adjustment according to the situation. When the temperature is adjusted, the carbonization furnace using the thermocouple temperature measurement is based on the thermocouple measurement, and is corrected by the optical pyrometer. The carbonization furnace for measuring the furnace temperature with a radiant pyrometer is based on an optical pyrometer. Uncarbonized materials are concentrated back to heavy carbonization.

(d) Pour the carbonized material into the drum, cover the lid, and clean the empty boat back to the loading station. If the surface of the boat is covered with a cover, the cover should be cleaned and then replaced.

4.2.3 Feeding

(a) After each batch is finished, put the batch card and transfer the materials to different ball mills according to the grade number. Accurately fill the weight on the corresponding material card and put it back on the batch surface. It is strictly forbidden to misplace the wrong card. Move the material to the designated position according to the fixed management regulations, arrange it neatly and cover it.

(b) Fill in the weight of the batch on the record book, and place the empty bucket of the same kind and no residual material on the trolley under the unloading table. The barrel opening and the lower opening are closed.

4.2.4 Loading

(a) The boat should be cleaned before loading the boat. If the material of different categories is changed, the boat should be replaced.

(b) The boat should be padded first when loading the boat normally.

(c) Test the boat. Take an empty boat over a pound, refill, feed the material and the boat overweight, and obtain the required loading capacity according to the process.

(d) Charge according to the loading capacity obtained from the test boat. The loading boat must be evenly loose.

(e) After each batch of materials is filled, the used drums are cleaned up, and the

empty drums of the same grade are placed neatly and capped according to the fixed management regulations. For buckets that have not been shoveled, cover the lid.

4.3 Class inspection

4.3.1 Check the temperature once per hour with an optical pyrometer. Pay attention to whether the cooling water, instrument control, and push speed are normal.

4.3.2 After each loading and unloading, the materials spilled on the material table and on the trolley shall be collected and disposed according to the regulations in time; the ground fabric shall be collected into the residual barrel. Pay attention to the savings.

4.3.3 When using various materials, pay attention to the type and amount of carbon, and fix the equipment accordingly.

4.4 Hand over

4.4.1 Record the truthfully, especially for the remaining problems and faults and the furnace inlet and outlet conditions must be clearly explained.

4.4.2 On-site and restroom hygiene shall be cleaned, and the tools and records shall be placed neatly.

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