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Company Standard

Hunan WISE New Material Technology Co., Ltd.

Steel Bonded Carbide sub-factory

Automatic press forming process

Operating instructions

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Automatic press forming

1 main auxiliary materials
1.1 Main raw materials: each grade is mixed with rubber and wax.
1.2 Main auxiliary materials: mold.
2 major equipment and tools
2.1 Main equipment: 30KN, 100KN lever type automatic press, 160KN cam type automatic press.
2.2 Main tools: balance, micrometer, platform scale, tray, stainless steel plate, steel ruler, wrench, caliper.
3 job quality requirements
3.1 Work must strictly comply with equipment safety techniques and operating procedures.
3.1 The single weight and size of the compact shall comply with the requirements of the Notice of Compression Conditions.
3.2 The compact shall have a certain strength and density. There shall be no delamination, cracks, uncompressed, falling edges, corners, adhesives, etc., and the burrs shall not be too large.
4 steps and essentials
4.1 Sampling suppression of mass identification
4.1.1 The rubber compound, the back-mixed rubber (SBP) material, or the wax-doped material shall be sampled according to the requirements of the quality inspection team. The sampled compact shall not have delamination, cracks, and uncompressed defects. After the sample is qualified, the presser can be used for normal production after stamping the qualified chapter.
4.1.2 Special reasons are required for urgent use of materials, and must be approved by the branch before they can be sent.
4.2 Preparation before pressing
4.2.1 According to the model to be produced, go to the die-cutting storage group to receive the corresponding mold according to the “pressing condition notice”, check the model of the mold, the fit of the punch, the finish, etc., and confirm it and register it on the “issuing mold record”. .
4.2.2 For the upper and lower punches, grindstone or sandpaper may be used for grinding. After repairing, the punch shall have a guiding surface of a certain length, which is subject to no clamping. Punches with poor finish can be polished on the polishing machine, but the basic shape of the punch cannot be damaged. If only the shape of the punch is changed, it is necessary to

obtain the consent of the red test. The ones that cannot be solved by themselves can be returned to the mold factory by the mold.
4.2.3 According to the production order picking, check the grade, batch number, production model and mold model one by one, and proof the balance, caliper, micrometer and platform scale.
4.3 Mounting
4.3.1 Remove the tip between the connecting rod and the slider, push the slider back away from the die sleeve, and clean the powder of the slider, hopper, etc.
4.3.2 Turn on the power, start the press to idle several times, check the operation of each component, and confirm the normal operation before starting the mold loading.
4.3.3 Clean the different types of presses, models and molds, the springs should be flat, the spring length and elastic force should be appropriate.
4.3.4 Install the lower punch, the die body and the upper punch in turn, and ensure that the back end of the die is flush with the die sleeve. The front end of the die body can be a few millimeters higher than the plane of the large plate, and the lower punch is released. The location, start the slow test run several times, check for the presence or absence of jamming, leakage and so on.
4.4 suppression
4.4.1 Adjust the equipment according to the weight, size and other requirements on the “Suppression Conditions Notice” (valid for 30 days). Firstly press out 5~10 compacts, stop the detailed inspection of single weight, size and compact density, and whether there are delamination, cracks, uncompressed, falling corners and other non-conforming products, and judge the problem. If the problem cannot be grasped, it is necessary to carry out a trial burn. If you find a problem, first of all, you must debug it yourself. If you can't solve it, you should contact the team leader and the craftsman in time. When the team leader confirms that the work section needs to be solved, the problem will be reflected to the section.
4.4.2 Before pressing, the material should be mixed by hand in the material box. When pressing, the material should be filled evenly. If the material cannot fill the cavity, reduce the speed of the press, adjust the position of the dragging plate or process the material. It is required to reject the blanks that are not full.
4.4.3 In addition to strict control in accordance with the requirements of the "Repression Conditions Notice", the height deviation of the product shall be controlled.
4.4.4 The speed of the press depends on the shape, weight and material performance of the compact. The speed of the 160KN cam press should be controlled within 20 times/min. It is not allowed to operate two 160KN cam presses at the same time. The 30KN and 100KN lever presses can be selected for fast and slow press according to the actual situation. The production task is urgent and one machine is allowed to operate two presses under the premise of ensuring product quality and production safety.
4.4.5 During the pressing process, it is necessary to strictly distinguish the normal rubber compound and the back rubber compound. The rubber compound shall be marked with the words “remixed rubber” on the production transfer card, and the normal rubber blending and back blending rubber shall not be mixed and pressed. (The anti-doped SBP material is not subject to this limitation).
4.4.6 The waste block should be broken in the class, sieved in the 355~560μm (40~30 mesh) pore size range, and mixed into the same batch as much as possible. After mixing evenly, reuse it again. The proportion is not more than 20%. For the return materials that cannot be used immediately,

they should be identified and kept. The return time of the returned material shall be reported to the branch factory for review and treatment; the bulk block material caused by the suppression of the non-conforming product shall be crushed and reused within 20kg of self-pressing. If it exceeds this range, it shall be reported to the branch for review. deal with.

4.4.7 Check the quality of the compact at any time during the pressing process. The appropriate amount of shaft should be more than 5 pieces. The sampling contents include: single weight, size, compact density and presence or absence of delamination, crack, no pressure, and falling corner. Wait.

4.4.8 The pressed compacts are placed neatly in a stainless steel pan, and the self-use alloy balls can be placed in the graphite pan. The distance between the compacts and the method of loading the discs are based on the principle of not damaging the compacts, but they should not be packed too much. The edges of the plates should be at least 2 cm apart, and the weight of each compact should not exceed 10 kg. The compact should also be padded with newspaper and foam on the plate.

4.4.9 According to the blanking category (rubber technology, paraffin process, overseas products), select different cards to fill in the specifications, and then add the words “back-mixed rubber” on the card (the back-mixed SBP material is not subject to this restriction).).

4.4.10 When each plate is full, put it on the scale and weigh it. Place the “production transfer card” and “quality feedback card” on the plate. Check the qualified blanks and confirm the stamps of the craftsman and transfer them to the next process. Non-conforming products shall be handled on duty; for the pressed blanks to be judged, the process inspectors shall mark and test the fire, and take out the treatment opinions within 2 days.

4.4.11 In the production process, the quality of the working environment should be guaranteed, and closed production should be carried out. The operating room is not allowed to open the window, and the materials should be covered at any time. Cover materials, tools and equipment when constructing and overhauling at the work site. Production should be stopped if necessary.

4.4.12 Analyze the contents of the “Quality Feedback Card” returned by the semi-addition and semi-inspection procedures, and then adjust your operation or make pressure.

4.4.13 After pressing, adjust the speed of the press to “0” position, turn off the power supply, clean the mold and tools, and pour the material back into the drum and cover the lid.

4.4.14 Do a good job in civilized health, fill out the “original record of production”, “record of handover” and issue the product transfer documents.

4.5 Process parameters and management priorities

4.5.1 The single weight and size of the compact shall comply with the requirements of the Notice of Compression Conditions.

4.5.2 The operator shall self-test as required and conduct a spot check on each blank.

4.5.3 The pressing speed is within the process range.

4.5.4 Operating environment can guarantee product quality requirements.

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