

APPLICATION OF A KIND OF COMPOSITE REPAIRING TECHNOLOGY

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Summary: By using and measuring and analysing through practicing a kind of new patented technology, end of the 20th century, people gradually introduce the new and modern technology to enhance and repair the mould, its role and significance to the Social and business are very Major. In this connection, The Aoyukeixn Company in Beijing invented the "resistance Melting at room temperature of device," it improve electric power brush to "pulse power inverter," and developed a "special activation process", brush with the bulk of different materials, by Several years of repeated practice, a unique strengthen and repair technology had successful formation, and it have introduction to our business. it proves that the technology does not cause anneal, intenerate, decarbonization, crack, stress, when mending the mould. it avoids the deficiencies of electric welding, argon-arc welding. It's a kind of advanced technology being worth to be popularizd.

Keyword: mould, repairing, normal temperature, new technology

1. Foreword

The development of the automotive industry, is a manifestation of the country's overall national strength. The past, our car is not beautiful appearance, performance is not satisfactory, because we have not advanced computer mapping software, designed not see the beautiful shape mould, because we have not advanced processing center, complex mould can not made, because we do not have high-quality monolithic; can not forming an ideal vehicle shape, because we do not have sophisticated means of processing, strengthen the ideal of technology, so we can not meet the required performance car. With the rapid development of human technology, the automobile industry will have a wider space. every day a large number of beautiful cars available for this increase ,in brilliant colors of the world. Beautiful cars from car moulds appearance on the ideal of forming plate processing, so the quality mould in car manufacturing is very important, because of the complexity of the processing and accuracy of mould in the cost of hundreds of thousands of Even more than 100 million, automobile parts for each process, only a processing mould, mould without standby reserve. Therefore car production line in order to ensure the normal production, the car mould On the maintenance of security it is particularly important. But at the same time, mould the work environment is squeezing

deformation plate, through the mould cavity of the movement of the final shape, bear a strong squeezing friction, so the mould cavity prone to serious injury and wear, because the mould material Strength,



monolithic mould and the forming of the mechanical properties of the rational design, and many other factors, and sometimes will mould in the safe use of the rapid wear period, the appearance of a direct impact on vehicle quality. To sum up, a vehicle with other large-scale mould, a high-cost, no backup, complex shape, wear, the special characteristics of higher quality requirements.

2、thetraditionalrepairingandmaintenancing for mould

To ensure the long-term normal use, in each batch processing to complete a part of mould, must carry out thorough cleaning and Oiler, and have a professional mould maintenance team, for the problems in time to Repair, the traditional method of repair is mainly Arc welding and Arc welding Protection by Argon. Mould of the car main three categories: namely, blanking punching mould, drawing Mould, Mould bending. Blanking punching edge of the mould is collapsing

damage repair; drawing mould mainly binder plate and mould with face and cavity wall of the injury; bending mould As general are relatively thick sheet, the most Easy injury, to have a serious impact on the surface parts. More than three types of mould repair, welding, and welding a long time, there are serious deficiencies. mould friction with the edge and face are after quenching, Rockwell hardness are generally in HRC56 ~ 62, and generally high-carbon steel materials, high-carbon steel, alloy cast iron, welding, and welding in the welding Completed the process of welding and the entire near-warming experience because of deformation, stress and annealing have softened, and other adverse phenomenon, although more through various means to reduce adverse phenomenon, but not fundamentally prevent the occurrence. We will often find repair, a collapsing edge welding repair, using a down cycle, the inspection found that although this point there is no problem, but at this point about the two sides has emerged wear; original surface of a Rafah ditch, welding good repair, after a period of use, found that patch ditch on both sides of the ditch and a two, or even repair regional in the original also appear on the turtles crack. This is mainly because in the welding Bushi, as the reasons for the high temperature so that the welding points on both sides softening annealing, hardness decline is due to the same high temperature changes in the organization so that the welding point stored within a certain amount of stress, in the process of using A stress arising from the release of micro-cracks; At the same time because of the high-temperature welding Bushi deformation, to mould the edge wear intensified, Gap uniform change, there Burr parts; some of the complex surface of the welding, not easy to ensure that references not only the shape, but also because of Biting edge, Shayan, and other phenomena, the welding of less than flatness of the requirements, such as the bends in the mould of regional focus, because wear and welding repair frequency will increase, made of cast iron moulds, in the same region repeatedly welding Fill three or more times, vulnerable decarbonization serious phenomenon, the specific performance-based strength of a welding, welding point can not be firmly combination of a large number of Shayan, the emergence of this phenomenon to continue to welding work of great difficulty. The

above-mentioned problems can be heated, thermal insulation and improve the level of welding, grinding, science and welding technology, and other measures to mitigate or reduce the occurrence, but can not guarantee that does not happen. Welding, welding the same mould of the Western powers car repair the main means, they also reduce the only ways to reduce occurred, is also impossible to eradicate. Therefore, the maintenance manager mould in often "do not mould repair can not be used, the more mould damage repair more serious" dilemma. Welding, welding repair mould in the meantime, the original mould of mechanical properties of the fundamental damage.

3、mould repairing of new technologies

With the auto market further intensified competition in the mould of the quality of their work demands also tend to be more stringent, end of the 20th century, people gradually introduced some new technology to strengthen the maintenance of the mould, played a certain positive role. Especially in the strengthening of the new mould, the more obvious advantages, such as nitrogen will be dealt with through the nitrogen ions into the surface to mould so that the whole surface of the hardness to mould over HRC68, improve the life of mould; ion implantation technology will also High hardness, high tolerance materials, "Ion" and high-speed impact into the mould surface, improving the performance of the surface mould, laser technology is to strengthen the surface at room temperature in the mould state of the mould of the designated site for local "laser to" hardening; Mould plating on the surface treatment, in foreign countries especially Japan, also have a small number of mould applications, but these technologies are the characteristics of surface strengthening applies only to new mould, mould damage repair has not been a new breakthrough. The last few years of the 20th century, the Beijing-Austrian company may Xin invented the "resistance cold fusion device," improved "electric power brush," developed a "special activation process", through years of repeated practice, the successful formation A unique mould repair techniques. The technology is the biggest characteristic of normal temperature restoration, mould surface in the restoration process, not heating up, deformation, have no internal stress, and complete the repair to avoid micro-cracks at the production and

mould from the weight, shape, location constraints, where Wear, where to accurately repair; repair capacity can be precisely controlled, with the base-level shape restoration, repair, up to the roughness (0.1) below; The portable detection hardness table: its hardness points for the repair HRC56 ~ 64, repair near the hardness change is less than HRC1.5; stamping work after 5000, with 15 times the magnifying glass repair detection region, no micro-cracks appear to repair materials Friction in the experimental plane here ZM-II-on experiments, the wear-resistance is 45 # steel hardness in HRC42 at around 2.5 to 3 times in 100 times magnifying glass repair materials under the observation of the dense, iron alloy HT300 is the 2 ~ 2.5 times (porosity), the technology that can fix the mould pull ditch, can also repair large areas of wear surface, in repairing damage at the edge of collapse, will not be annealed, softening phenomenon, the original repair welding of the most difficult Alloy Steel (Cr12Mo, 3Cr10, etc.), there will not crack; mould for the force on several key areas, through its surface modification, or select high hardness and high wear-resistance material as the special meeting Build, so that the region's mechanical properties significantly higher than the original material. Austrian-Hsin-yu can develop mould of the new repair technologies, not only completely fill the welding, welding deficiencies, but also to mould the life of the overall increase, the decline in Fan Xiushuai mould stamping parts and improve the quality of the surface areas Have significant effect. That is due to select high-performance materials for repair, so that the special repair the mould surface after the use of performance equals or exceeds the performance of the original materials.

4、 the results and conclusions:

General thickness of 1.5 mm below the expected mould plate, the service life of 15 to 30 million, more than 2 mm thickness of the original sheet metal moulds, the service life of five to 10 million. Using the traditional welding or welding to repair the mould, the heat distortion, heat stress, annealing softening, and other factors, each of the mould repair the mechanical properties will have different damage, so use after a period of time, the life of mould Will be severely affected, the frequency and mould maintenance workload increased substantially and

directly affect the quality of stamping parts. I started the company since 2000, the application of the Austrian-Hsin-yu can mould repair technology, has on Japan, Taiwan, days steam, the steam, and other domestic and foreign manufacturers for me is making the mould of the Shang Baitao a large repair, the results Ideals, the restoration of moulds to meet the design standards. Through a long time, a large number of practical application of mould that can be Mingao Yu-hsin special repair technique is a suitable mould repair application of new technologies, repair it in the mould, repair, near the area not to heat up, not deformed, no annealing, softening phenomenon , No stress, no crack; repair regional high hardness, abrasion resistance, and the shape can be repaired, not to change the shape of the original datum; can be at room temperature under repair all kinds of mould material (steel, iron alloy, high-carbon Steel, etc.) repair the damage in the process of restoration will not only completely avoid the electric welding, welding deficiencies, but also to mould the overall performance has significantly improved. The technology that can be used for mould damage restoration, mould can also be used to force the local to strengthen the regional focus. With such technology to promote the work of the in-depth, it will be auto industry mould by the extensive application.

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