

New progresses of Chinese art casting

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The Chinese art casting with 5 000 years history has been rapidly developed in recent ten years. This benefits from the great development of Chinese economy, the large-scale urban construction and transformation, the increasing demands for the cultural work of art, the loose religious environment and the expanding international market.

The Art Casting Technical Committee of China Foundry

Association has been established for 10 years. Almost 90 art casting enterprises joined in the organization, not including nearly thousand enterprises of foreign capital and massive domestic workshop type. It is estimated that the scale and the output of art castings in mainland China have situated the world front row.

1 Breakthrough of the surface coloring technique

The quality of Chinese art castings approaches the level of the advanced countries, but there are still many disparities in the post-processing especially the surface coloring technique is

low. By hard working, now we have grasped the methods for obtaining many kinds of colors (Fig 1). Today not only rough art casting but also finished art casting articles can be exported.



Fig.1 Art casting parts with different lustre

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2 The progresses of art casting technologies

According to the products' characteristics, by now the Chinese art casting enterprises have produced many kinds of art casting articles by using of different techniques such as resin bonded sand casting, clay bonded sand casting, sodium silicate bonded sand casting, investment casting, plaster mould gravity casting, plaster mould suction casting, expendable pattern casting,

ceramic mold casting, metal mold casting, die casting, centrifugal casting of heat resistant silica gel and the traditional loam molding and so on.

The variety of alloys include bronze, brass, copper-nickel, imitation-gold, aluminum alloy, kirsite, tin alloy, fusible alloy, casting pig, stainless steel, titanium alloy, gold- and silver-base alloy, etc.

2.1 Increasing variety of the surface decoration

The traditional and modern techniques have been applied such as the decorated engraves of photography, the colored drawing, gold-mercury amalgam (Fig. 2), gold-plating, inlaying the gold

or silver, covering with gold leaf (Fig. 3), inlaying the gem (Fig. 4), inlaying the enamel (Fig. 5), painting the enamel, the mottled copper, the black copper running through with silver, and so on.



Fig.2 Gilding Enamel Censer and Buddhist Statue



Fig.3 Gilding Buddhist Statue and Instrument



Fig.4 Wall Clock inlaid the gem



Fig.5 Enamel Mandarin Duck Censer

2.2 The giant and heavy art castings emerged incessantly in recent years

Except the copper bell of 116 tons, the Lingshan Buddha of 88 m high in Wuxi(see page 161) and the 42 m high Puxian Bodhisattva copper casting(see page 161) at the Jinding of

Emei Mountain, Sichuan, have also been finished in recent years. And the 108 tons bronze bell and the 56 m high tripod are also at the stage of preparing for construction.

2.3 Increasing the group statues

The bronze statues of 500 Arhats in the Lingyin Temple, Hangzhou city, the gilding 500 Arhats in Dali, Yunnan province (Fig.6), 'Wuyunjiuru' in the new Baiyun international airport (see page 156), Guangzhou city, 'The Seven Sages of the Bamboo Grove' in Xi'an city (Fig.7), 'Between the Sky and the Land' in Xi'an city (Fig.8), 'The Nostalgia' in Xiangtan, Hunan

province (Fig.9) and so on all have been completed with respective technical characteristics. The 'Group Sculpture of Genghis Khan' (see page 156) is composed of five groups of group sculptures. The total surface area amounts to 4 800 square meters and 422 tons copper was consumed.



Fig.6 The gilding 500 Arhats, height 1.85 m



Fig.7 The Seven Sages of the Bamboo Grove, height 3 m



Fig.8 Between the Sky and the Land, height 3 m



Fig.9 The Nostalgia, height 6 m

2.4 Large area reliefs

For example , the relief ‘Anti-Japanese War’ for the 60th anniversary of the winning of that war (Fig.10) and “The Numerous Immortals Facing the God” (Fig.11) are large area

reliefs, in which the crafts such as slurry molding process, resin bonded sand casting etc. were applied.



Fig.10 Relief “Anti-Japanese War”, height 1.8 m, length 15 m



Fig.11 The Numerous Immortals Facing the God, height 3.2 m, length 18 m

2.5 Appearance of Large-scale Dynamic Sculpture

The large-scale dynamic sculptures “Nine Dragons Fill the Bath” (see page 161) and the “Extremely Happy Bodhisattva Kingdom” integrated the high techniques of machinery and

hydraulic transmission, computer controlled music, water-spraying, flaming, light, etc. together.

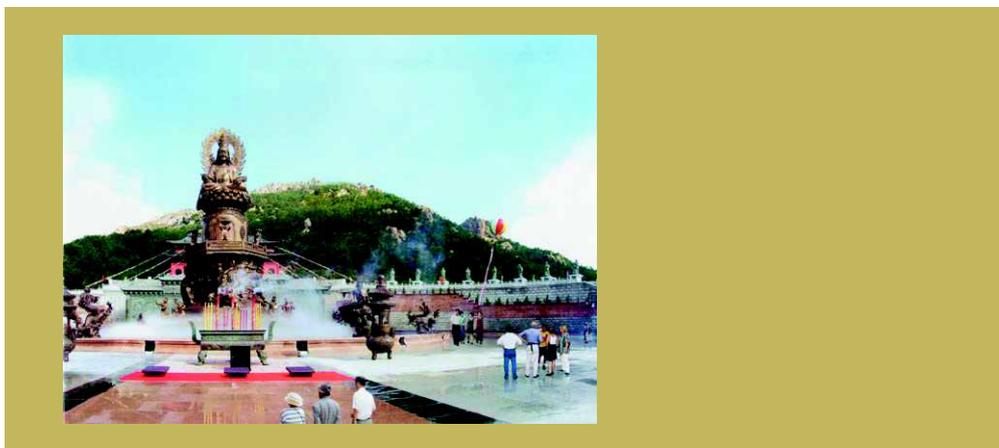


Fig.12 Extremely Happy Bodhisattva Kingdom, which can be lifted and rotated, height 25.8 m

2.6 Increasing of Chinese percussion and the musical instrument

Computer design software about the shape design especially the acoustics design of the Buddhist bell and the chime bell has been developed. The acoustics frequency of the bell founded according to the software is very near to the designed

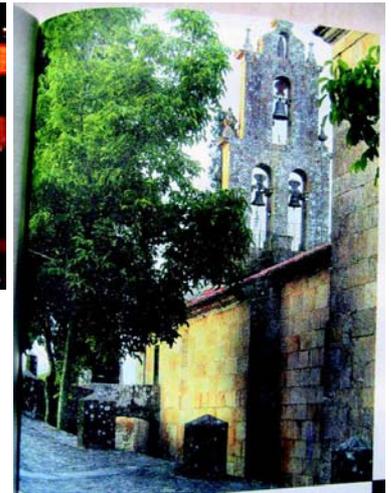
frequency. On the bases of the chime bells being finished, which composed of 65 pcs and 108 pcs respectively, the design and casting techniques of ancient Nao, Chunyu and temple bell have been exploited.





Fig.13 108 pcs/sets chime bells with broad sound territory and gorgeous decoration, being placed in the Palace of Culture, Beijing for permanent exhibition, height 27 m

Fig.14 The Western Bell, 4 pieces altogether, may play “Westminster Abbey” time music



3. Construction of culture industry park of art casting

In recent years, many large and middle scale professional art casting enterprises have been established or are being built. The area occupied by some workshops is up to ten thousand square meters, which is rare in the world.

Some new enterprises locate the art casting as cultural industry, and extremely pay attention to the combination of cultural art and casting. For example some enterprises were designed and constructed to be a garden type area, such as San-xing-dui bronze art workshop. It provides many replicas of China famous bronze works and performs art casting on the spot, integrating industrial traveling, relaxation and shopping as a whole. This not only promote the enterprise' cultural status, but also promote the enterprise' reputation largely. China Ministry of Culture named 27 cultural industries “Demonstration Enterprises” in 2006 and two of them are art casting enterprises.

Some enterprises set up the research institute of art casting,

and introduced the talents or cooperated with the universities to develop new crafts and techniques.

Some sculpture departments of art academy established foundry industrial curriculum. Students can cast their own works by hand. Some art casting enterprises have become the base of sculpture practice, which not only train the students, but also provide the place for teachers and students to finish their works.

Some colleges of engineering open the elective course of art casting. It is helpful for students specialized in material engineering to enhance their interest in casting, broaden their vision and promote the art accomplishments.

Some enterprises attach importance to talents cultivation, except co-holding kinds of training classes with the China Foundry Association and universities; they are preparing to establish schools for fostering the sculpture workers, etc.

4. The first guidance document of technology has been promulgated and carried out

“The Guidance Document of Technology about Art Casting of Copper” drawn up by Art Casting Technical Committee of China Foundry Association was promulgated and carried out on April 1, 2005. This is the first document about the quality standard

of art casting, Chinese percussion instrument and the musical instrument in the world. It will become the national standard in 2007. The criterion being carried out will further enhance the level of Chinese art casting articles.

5. Occupation training, technology exchanging, exhibition and so on

The fast development of art casting industry causes the lack of the talents. Therefore, the association provides kinds of training classes to train the talents and to improve the product's quality.

The association holds the routine meeting once time every two years to exchange experience of technology and management. At the meeting some domestic and foreign experts were invited to give reports about the development of art casting market, the new varieties, the new technologies and crafts and choose the excellent works through appraisal.

In order to organize the enterprises, artists, artwork dealers

etc. to exchange viewpoints, and to develop the art casting market altogether, the “Art Casting Salon” organized by the association is carried out every year. The association frequently organizes the enterprises to participate in kinds of exhibitions for developing the market and improving the techniques.

Although the copper price has been being at a high level for a long time in the international market, the Chinese art casting industry market is still prosperous and a great beautiful prospect still can be seen.