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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Product of geographical indication - Dehua white porcelain

地理标志产品 德化白瓷

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1 Scope

This standard specifies the terms and definitions, the protected area of the geographical indication product, the product classification, the requirements, the test methods, the inspection rules and the marking, packaging, transport and storage of Dehua white porcelain.

This standard applies to the Dehua white porcelain placed under protection by the national administrative authority for quality supervision, inspection and quarantine in accordance with the Provisions on the Protection of Products of Geographical Indication.

3 Terms and definitions

The terms and definitions established in GB/T 3303 and GB/T 5000 and the following apply to this standard.

3.1 Dehua white porcelain: sculptural white porcelain and white tableware, pure white, fine and translucent in character, produced within the area of Clause 4 from high-silica, low-iron,

low-titanium high-quality kaolin sourced within the administrative area of Dehua County as the main raw material.

3.2 seam mark: the trace of a mould joint showing on the surface of the product.

3.3 browning mark: the dark brown glazed surface left on the product after firing by a knot in the peeled wood, also known as a peeling mark.

3.4 blur of blue and white pigment: blue and white pigment whose colour is indistinct.

3.5 rough on blue and white pigment: blue and white pigment that feels rough to the touch.

4 Protected area of the geographical indication product

The protected area of Dehua white porcelain is limited to the area approved for protection by the national administrative authority for quality supervision, inspection and quarantine under the Provisions on the Protection of Products of Geographical Indication, namely the present administrative area of Dehua County, Fujian Province, as shown in Annex A.

5 Product classification

5.1 By use, products are divided into sculptural white porcelain and white tableware. 5.1.1 Sculptural white porcelain is divided into figures, birds and animals, flowers and landscapes, and other sculptural pieces. 5.1.2 White tableware is divided into plates and dishes, bowls, pots, cups and other vessels.

5.2 By appearance quality, products are divided into superior, first, second and qualified grade.

5.3 By size, products are divided into small, medium, large and extra-large, the ranges being given in Table 1. For sculptural figures the four classes run from 50 mm up to but not including 150 mm, from 150 mm up to but not including 350 mm, from 350 mm up to but not including 550 mm, and from 550 mm to 800 mm; for birds and animals, flowers and landscapes and other sculptural pieces they run from 50 mm up to but not including 150 mm, from 150 mm up to but not including 250 mm, from 250 mm up to but not including 400 mm, and from 400 mm to 800 mm; sizes are taken on the largest external dimension of the piece. For tableware, plates and dishes are classed by rim diameter below 128 mm, from 128 mm up to but not including 228 mm, from 228 mm to 350 mm, and above 350 mm; bowls by rim diameter below 110 mm, from 110 mm up to but not including 175 mm, from 175 mm to 250 mm, and above 250 mm; pots by capacity below 250 mL, from 250 mL up to but not including 1 000 mL, from 1 000 mL to 2 400 mL, and above 2 400 mL; and cups by rim diameter below 60 mm, from 60 mm up to but not including 100 mm, and 100 mm and above, with no extra-large class. Other pieces are classed by analogy with the shapes above.

6.1 Body clay

6.1.1 The kaolin used as the main raw material of the body clay shall be high-quality kaolin sourced within the administrative area of Dehua County and having a high silica, low iron and low titanium character. Table 2 sets its chemical composition in per cent: silicon dioxide not more than 68.0; aluminium oxide not less than 18.0; potassium oxide not less than 1.5; sodium oxide not less than 0.5; calcium oxide not more than 0.4; magnesium oxide not more than 0.2; iron oxide not more than 0.5; titanium dioxide not more than 0.1.

6.1.2 The kaolin is prepared by pounding and washing, while the other constituents, porcelain stone, feldspar and quartz, are crushed and ball-milled; the whole is then sieved, de-ironed and aged to form the body clay.

6.1.3 The quality of the body clay is fixed as follows. Its appearance shall be uniform and fine in texture with no visible impurities. Its moisture shall be not more than 26 per cent. Its fineness shall give a residue on a 250-mesh sieve of less than 0.5 per cent. Its plasticity index shall be greater than 2.5. Its chemical composition shall comply with Table 3, in per cent: silicon dioxide not more than 73; aluminium oxide not less than 18; potassium oxide plus sodium oxide not less than 3.5; calcium oxide plus magnesium oxide not more than 0.8; iron oxide not more than 0.3; titanium dioxide not more than 0.1; loss on ignition not more than 4.

6.2 Production process

6.2.1 The production of Dehua white porcelain shall follow the process flow of Figure 1.

6.2.2 Forming. Sculptural white porcelain is formed by hand, by pinching, modelling, carving, incising, scraping, paring, joining and applying, or by slip casting. White tableware is formed, according to the shape of the piece, by hand, by machine, by slip casting or by isostatic pressing.

6.2.3 Surface decoration is divided into incised decoration, relief and painted decoration. In choosing the method, the pattern, the extent of the composition, the mood created and the brushwork and colouring, the character of Dehua white porcelain shall be brought out, so that decoration and material form a single whole and set each other off.

6.2.4 Glazing. Sculptural white porcelain is either glazed or left as biscuit; glazed pieces are dipped, poured, sprayed or brushed, with an appropriate glaze thickness. White tableware is glazed, according to the shape of the piece, by swilling, dipping, pouring or spraying, with an even glaze thickness.

6.2.5 Firing. Single firing is carried out at a high temperature of 1 250 degrees C to 1 400 degrees C. Double firing uses either a low-temperature biscuit firing at 800 degrees C to 900 degrees C or a high-temperature biscuit firing at 1 250 degrees C to 1 400 degrees C, followed by a high-temperature glaze firing at 1 250 degrees C to 1 400 degrees C.

Decorating firing is carried out at 700 degrees C to 800 degrees C.

6.3 Product quality

6.3.1 Water absorption shall be not more than 0.5 per cent.

6.3.2 Whiteness shall be not less than 80.0.

6.3.3 The gloss of the glazed surface, matt glazes excepted, and the colour difference between the pieces of a set shall comply with Table 4. Table 4 fixes a minimum gloss value and a maximum colour difference, expressed as delta E, for each of the four appearance grades, but the OCR of the table does not attach the values to the grades unambiguously, so they are not reproduced here.

6.3.4 Further requirements for white tableware. Thermal shock resistance: small and medium pieces shall not crack after one exchange from 180 degrees C to 20 degrees C, and large and extra-large pieces shall not crack after one exchange from 160 degrees C to 20 degrees C. The release of lead and cadmium shall comply with GB 12651. The lid of a covered piece shall broadly match the mouth; a pot tilted through 70 degrees shall not lose its lid, the gap between lid and pot mouth when the lid is moved to one side shall not exceed 3.0 mm, and the opening of the spout shall not be lower than the pot mouth by more than 3.0 mm.

6.3.5 Tolerances on size. For sculptural white porcelain, plus or minus 3 per cent for small and medium pieces and plus or minus 2 per cent for large and extra-large pieces. For white tableware, the tolerance on rim diameter is plus or minus 2.0 per cent for a rim diameter below 60 mm and plus or minus 1.5 per cent for a rim diameter of 60 mm and above; the tolerance on height is plus or minus 3.0 per cent; and the tolerance on mass is plus or minus 6.0 per cent.

6.3.6 Appearance quality. Sculptural white porcelain shall be pure white, fine and elegant, translucent, with clear, slender and flowing lines, deep and rounded carving, and drapery pared thin at the folds so that it appears light and lifting. White tableware shall be pure white, fine and warm, translucent, with a clear thick glaze. Superior and first grade pieces shall stand steady on a flat surface, and second and qualified grade pieces shall stand broadly steady. Marks on the base, meaning trademarks and lettering, shall be correct and clear and shall not be visibly skewed or off-centre. The pieces of a set shall be broadly consistent in colour and proportionate in size, and sculptural pieces made in batches shall be consistent in the depth of the carving and in the size of hands and feet, with fittings and ornaments of uniform size.

6.3.6.5 Defects on the exposed parts of sculptural pieces. No defect is permitted on the front-facing part of the face of a figure. Spots, adhering grit, melt holes, lumps, body blisters, clay debris, pinholes, missing clay, missing glaze, plaster staining and similar defects on the parts of the face not seen from the front, on the crown of the head, the white