मानकः पथप्रदर्शकः
Bureau of Indian Standards

COMPENDIUM OF INDIAN STANDARDS

ON

CROCKERYWARE

Presented by :
CHEMICAL DEPARTMENT

INTRODUCTION

Crockeryware refers to a broad range of tableware items made from ceramic materials such as porcelain, bone china, earthenware, and stoneware. These items include plates, bowls, cups, saucers, and serving dishes that are used for dining and food presentation. Known for their aesthetic appeal, durability, and versatility. Crockeryware plays a significant role in both everyday meals and formal dining settings.

Traditionally crafted through the process of shaping, firing, and glazing clay, crockeryware combines functionality with design. Its variety in styles, patterns, and finishes makes it a key element in table setting, reflecting cultural heritage and personal taste. Whether used in households, restaurants, or hospitality services, crockeryware enhances the dining experience by offering elegance, hygiene, and a sense of refinement.

This compendium aims at providing an overview of Indian Product Standards on crockeryware, offering insights into their types, material requirements, and performance criteria.

By compiling relevant standards on crockeryware in a single document, this compendium serves as a ready reference for professionals involved in manufacture of crockeryware which are efficient, reliable and safe.

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[1.] Erthenware Crockeryware — Specification (IS 2857 : 2002)

(Reviewed in : 2018)

Scope: This standard prescribes requirement and methods of sampling and test for earthenware crockeryware.

Key Provision:

This standard covers earthenware crockery, including dinnerware and tableware made from glazed non-vitreous ceramic materials. The standard classifies products into three grades (Grade 1, 2, and 3) based on visual assessment of defects such as pinholes, cracks, and glaze imperfections. It sets strict requirements for material properties such as porosity, glaze quality, and structural integrity. The ware must also meet standards for dimensional accuracy, including limits on warpage and flatness.

The standard ensures the safety and quality of crockeryware by defining permissible limits for the release of toxic elements like lead and cadmium, in alignment with international guidelines. It also mandates performance tests for thermal shock resistance, water absorption, impact strength, and resistance to detergents, citric acid, and crazing. These requirements help ensure that earthenware crockeryware is safe for food contact, durable in use, and maintains its appearance and functionality over time.

[2.] Porcelain Crockeryware — Specification (IS 3505 : 2002)

(Reviewed in : 2018)

Scope: This standard prescribes requirement and methods of sampling and test for Porcelain crockeryware.

Key Provision:

This standard covers two types of porcelain crockery — soft porcelain and hard porcelain. These are completely vitrified, white or coloured ceramics with varying translucency, fired at different temperatures. The crockeryware is classified into three grades based on visual assessment of surface defects like pinholes, specks, cracks, and glaze imperfections. The standard also sets limits for warpage, flatness, and water absorption (less than 0.3%) to ensure quality and uniformity across products.

The standard includes performance requirements such as thermal shock resistance (120°C for soft and 150°C for hard porcelain), and resistance to detergents, citric acid, and crazing. It also limits the release of toxic elements like lead and cadmium to ensure safety for food contact. Impact strength and chipping resistance are defined for various items to guarantee durability.

[3.] Vitreous China Crockeryware — Specification (IS 14705 : 1999)

(Reviewed in : 2025)

Scope: This standard prescribes requirement and methods of sampling and test for Vitreous China crockeryware.

Key Provision:

This standard covers vitreous china crockeryware, a non-translucent, high-strength ceramic material fired at approximately 1250°C. The ware is classified into three grades based on visual assessment, considering defects such as pinholes, specks, cracks, and glaze imperfections. The standard defines strict criteria for material composition, workmanship, and surface finish. It also sets limits for warpage, flatness, and water absorption (less than 0.5%) to ensure quality and uniformity.

The standard includes performance requirements like resistance to thermal shock (150°C for five cycles), impact strength, chipping resistance, and durability against detergents and citric acid. It also limits the release of toxic elements like lead and cadmium to ensure safety for food contact. These requirements ensure that vitreous china crockeryware is safe, durable, and suitable for repeated use in food service environments.

[4.] Fine (Bone) China Crockeryware — Specification (IS 6988 : 2002)

(Reviewed in : 2018)

Scope: This standard prescribes requirement and methods of sampling and test for Fine (Bone) China crockeryware.

Key Provision:

This standard categorizes the ware into three grades based on visual defects like pinholes, glaze flaws, and surface imperfections. The material must contain at least 35% bone ash and exhibit high translucency, low porosity, and high mechanical strength. The standard outlines detailed criteria for workmanship, finish, warpage, flatness, water absorption, and physical durability, ensuring a consistent quality across crockeryware items.

Additionally, the standard limits the permissible release of toxic elements like lead and cadmium, aligning with international food safety norms. These limits vary based on the type of crockeryware—flatware, hollowware, cups, etc. Other requirements include resistance to thermal shock, detergents, citric acid, and crazing, with specific test methods prescribed in IS 14179 and IS 9806. This ensures that the products are both safe for food contact and durable in regular use.

[5.] Stoneware Crockeryware — Specification (IS 11475 : 2002)

(Reviewed in : 2018)

Scope: This standard prescribes requirement and methods of sampling and test for Vitreous China crockeryware.

Key Provision:

This standard classifies crockery into three grades based on visual assessment and defines physical, chemical, and performance properties such as finish, warpage, thermal shock resistance, water absorption, impact strength, and chipping resistance. The standard ensures that the material is semi-vitreous, with low porosity, high mechanical strength, and covered with a smooth, impervious glaze. It also provides criteria for visual defects, with detailed grading based on the type and number of surface imperfections.

A key feature of this standard is the alignment of lead and cadmium release limits with international guidelines, ensuring consumer safety and compatibility with global trade regulations. Additional performance requirements include resistance to detergents, citric acid, and crazing. Testing methods and acceptance criteria for these characteristics are referenced from related Indian Standards to maintain consistency and reliability across assessments.