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**Materials and articles in contact with  
foodstuffs — Cutlery and table holloware —**

Part 6:  
**Lightly silver-plated table holloware  
protected by lacquer**

iTeh STANDARD PREVIEW

*Matériaux et objets en contact avec les denrées alimentaires — Coutellerie  
et orfèvrerie de table —*

*Partie 6: Orfèvrerie de table laquée et avec un léger placage d'argent*

ISO 8442-6:2000

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Printed in Switzerland

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 8442 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 8442-6 was prepared by the European Committee for Standardization (CEN) in collaboration with ISO Technical Committee TC 186, *Cutlery and table and decorative metal hollow-ware*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this standard, read "...this European Standard..." to mean "...this International Standard...".

ISO 8442 consists of the following parts, under the general title *Materials and articles in contact with foodstuffs — Cutlery and table holloware*:

- iTeH STANDARD PREVIEW  
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- ISO 8442-6:2000  
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- Part 1: Requirements for cutlery for the preparation of food
  - Part 2: Requirements for stainless steel and silver-plated cutlery
  - Part 3: Requirements for silver-plated table and decorative holloware
  - Part 4: Requirements for gold plated cutlery
  - Part 5: Specification for sharpness and edge retention test of cutlery
  - Part 6: Lightly silver-plated table holloware protected by lacquer
  - Part 7: Requirements for table cutlery made of silver, other precious metals and their alloys
  - Part 8: Requirements for silver table and decorative holloware

Annexes A to I form a normative part of this part of ISO 8442. Annex J is for information only.

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## Foreword

The text of EN ISO 8442-6:2000 has been prepared by Technical Committee CEN/TC 194 "Utensils in contact with food", the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 186 "Cutlery and table and decorative metal hollow-ware".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2001, and conflicting national standards shall be withdrawn at the latest by March 2001.

Attention is drawn to the European Community Directives relative to materials in contact with foodstuffs, in particular Directives 89/109/EEC and 90/128/EEC.

EN ISO 8442 consists of the following parts:

- Part 1: Requirements for cutlery for the preparation of food
  - Part 2: Requirements for stainless steel and silver-plated cutlery
  - Part 3: Requirements for silver-plated table and decorative hollowware
  - Part 4: Requirements for gold-plated cutlery
- Further parts are proposed with the following titles

- Part 5: Specification for sharpness and edge retention test of cutlery
- Part 7: Requirements for table cutlery made of silver, other precious metals and their alloys
- Part 8: Requirements for silver table and decorative hollowware

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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## 1 Scope

This Standard specifies material and performance requirements for table holloware and cast attachments, made from metals which are lightly silver-plated and protected by lacquer.

This Standard is applicable to such items as jugs, dishes, wine coolers, tea- and coffee-pots, trays and tureens.

Requirements are specified for brass, copper, bronze, nickel-silver, pewter and stainless steel holloware with a light silver-plating and a lacquered coating.

The standard does not cover holloware made entirely of precious metals, brass, nickel-silver, stainless steel or made from ceramics or glass or non-stainless steel or zinc-based die cast.

Composition limits are specified for the basic metals for fabrication of the holloware prior to silver-plating and lacquering.

The standard does not include requirements for design, size or any other characteristics which are matters of personal choice or which can be readily assessed by the purchaser at the point of sale.

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## 2 Normative references

This Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

ISO 301	Zinc alloy ingots intended for casting
EN ISO 2177	Metallic coatings - Measurement of coating thickness – Coulometric method by anodic dissolution (ISO 2177:1985)
ISO 4481	Cutlery and flatware - Nomenclature
ISO 6508	Metallic materials - Hardness test - Rockwell test (scales A-B-C-D-E-F-G-H-K)
EN ISO 8442-2:1997	Materials and articles in contact with foodstuffs — Cutlery and table holloware - Part 2: Requirements for stainless steel and silver-plated cutlery (ISO 8442-2 : 1997)
EN 10088-1	Stainless Steels - Part 1: List of stainless steels
ENV 12875-1:1998	Mechanical dishwashing resistance of domestic utensils — Part 1:Reference test method

### 3 Terms and definitions

For the purposes of this European standard the following terms and definitions apply.

#### 3.1

##### **table holloware**

items formed into a hollow shape for the containment of food or drinks.

#### 3.2

##### **functional surface**

exterior surface of table holloware or the interior surface of a shallow item of holloware, the surface of which will receive usage equivalent to, or exceeding that of, the exterior.

#### 3.3

##### **other surfaces**

surface of an item of holloware which is lightly silver-plated and lacquered principally for aesthetic reasons, e.g. the interiors of pots, or which is lightly silver-plated and lacquered for use with food or drinks but which will receive a minimum of abrasive usage.

#### 3.4

##### **attachments**

component of an item of holloware joined to it.

#### 3.5

##### **load-bearing attachments**

attachment upon which a force resulting from the support of the mass of the holloware and/or its contents will be applied in normal use and comprising such items as handles, taps, feet, bases, spouts and goblet stems.

#### 3.6

##### **burr**

metal in excess of that required to shape an article and which forms a thin plate at its edges.

#### 3.7

##### **vessel**

item of holloware specifically intended as a container for food and/or liquid.

#### 3.8

##### **usable capacity**

volume of liquid required to fill a vessel to 15 mm  $\pm$  1 mm from its rim.

#### 3.9

##### **popping**

sudden transformation of an apparently flat surface of an item of holloware from convex to concave when a load is applied to the convex side, usually accompanied by a distinctive sound.



**3.10****visual inspection**

examination carried out from a distance of  $(250\pm 50)$  mm with the unaided eye, or using normal corrected vision only, at ambient light levels sufficient to provide 250 lux at the surface under inspection

**3.11****light silver plating**

silver coating with a thickness in excess of  $0,3 \mu\text{m}$  but less than  $5 \mu\text{m}$

**3.12****lacquer**

polymer coating

**4 Materials****4.1 Metal**

**4.1.1** The composition of the metals from which the holloware is made shall be as given in table 1.

**4.1.2** When determined in accordance with annex B.3 silver coatings shall have a minimum content of 98,5 % Ag.

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**4.2 Non-metals**

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Non-metal parts of table holloware shall be capable of withstanding either washing processes in aqueous dishwashing solutions at  $50 \text{ }^\circ\text{C}$  or the test according to annex A.

NOTE Non-metal parts of lacquered lightly silver-plated holloware may be made of such materials as glass, ceramic, bone, horn, vulcanized fibres, plastics, wood, wood-plastics laminates or impregnated wood.

Table 1 — Base metals for lacquered, lightly silver-plated holloware

Materials	Chemical composition (%)									
	C max	Cr Min	Ni min	Cu min	Mn max	Fe max	Pb max	As min	Sn min	Zn min
Austenitic stainless steel <sup>3)</sup>	0,10	17	8							
Ferritic stainless steel <sup>3)</sup>	0,10	13								
Mild steel	0,08	0,087			0,45					
Nickel-silver (Cu, Ni, Zn)			9	60	0,5	0,3	0,5			
Brass (Cu, Zn)				60			3,5 <sup>2)</sup>			
Copper				99,4			0,2	0,2		
ISO 301 Alloy ZnA14										
ISO 301 Alloy ZnA14Cu1				max 1						
Pewter Alloy <sup>1)</sup>							0,5		90	
							0,3			

<sup>1)</sup> Only for attachments which do not come into contact with food.  
<sup>2)</sup> Any part of the item that comes into direct contact with foodstuffs shall not have a Pb content of greater than 0,05%  
<sup>3)</sup> The chemical composition of the stainless steel sections of the articles shall conform to the requirements of EN 10088-1

## 5 Construction

### 5.1 Average thickness

When measured in accordance with annex B (mass of coatings) and annex B of EN ISO 8442-2 : 1997 (area of coatings), the average thickness of silver coatings on the surface(s) of each finished item, with the exception of the other surfaces of an item of holloware, shall not be less than 0,3 µm with a minimum local thickness of 0,2 µm.

### 5.2 Uniformity and absence of defects

**5.2.1** All surfaces shall be free from cracks and other defects.

**5.2.2** All accessible edges shall be free from burrs and shall not be rough

**5.2.3** Gaps between components shall not exceed 0,4 mm. Seams joining hollow sections together shall be watertight unless otherwise required by the design.

**5.2.4** Compliance with the requirements of 5.2.1 to 5.2.3 shall be checked by touch or visual inspection and 5.2.3 with a feeler gauge of appropriate thickness.

### 5.3 Lacquering

All surfaces shall be free from cracks and other defects. There shall be no dimnesses and discolourations

NOTE Attention is drawn to the requirements of EEC Directives 89/109 [1] and 90/128 [2].

## 6 Performance

### 6.1 Lacquering

#### 6.1.1 Resistance of lacquering to discolouration and peeling

After testing in accordance with annex A, the lacquer shall be free from white discolourations. Lacquering shall show no signs of looseness, blistering or peeling.

#### 6.1.2 Resistance to scratching

After testing in accordance with annex C, the lacquer shall show no signs of scratching.

NOTE: Insignificant mat stripes producing a milky dimness may be ignored.

#### 6.1.3 Resistance to ultraviolet radiation

After testing in accordance with annex D, the lacquer shall be free from discolouration.

### 6.2 Strength under load

#### 6.2.1 Resistance of rectangular and square trays and dishes to twisting

The temporary deflection of a rectangular or square tray or flat dish exceeding 300 mm at its maximum axis shall not exceed 3,5 mm in 100 mm deviation from flat in any diagonal across the surface of the base when tested in accordance with annex E.

#### 6.2.2 Resistance of trays and dishes to popping

A tray or dish shall not exhibit popping when tested in accordance with annex F.

#### 6.2.3 Load strength of vessels

A vessel shall exhibit no permanent deformation when tested in accordance with annex G.