
**Mehanska odpornost posode in pribora pri pranju v pomivalnem stroju - 5. del:
Hitri preskus za keramične izdelke za gostinstvo**

Mechanical dishwashing resistance of utensils - Part 5: Rapid test for ceramic catering articles

Spülmaschinenbeständigkeit von Gegenständen - Teil 5: Schnellverfahren für keramische Gegenstände für den gewerblichen Gebrauch

Résistance mécanique au lave-vaisselle des ustensiles - Partie 5: Essai accéléré pour les articles en céramique pour collectivités

(standards.iteh.ai)
SIST EN 12875-5:2006
<https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006>

Ta slovenski standard je istoveten z: EN 12875-5:2006

ICS:

97.040.40	Pomivalni stroji	Dishwashers
97.040.60	Kuhinjska posoda, jedilni servisi in jedilni pribor	Cookware, cutlery and flatware

SIST EN 12875-5:2006**en,fr,de**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12875-5:2006

<https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12875-5

March 2006

ICS 67.250; 97.040.40; 97.040.60

English Version

Mechanical dishwashing resistance of utensils - Part 5: Rapid test for ceramic catering articles

Résistance mécanique au lave-vaisselle des ustensiles -
Partie 5: Essai accéléré pour les articles en céramique pour
collectivités

Spülmaschinenbeständigkeit von Gegenständen - Teil 5:
Schnellverfahren für keramische Gegenstände für den
gewerblichen Gebrauch

This European Standard was approved by CEN on 13 February 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

[SIST EN 12875-5:2006](https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006)

<https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents		Page
Foreword.....		3
Introduction		4
1 Scope		5
2 Normative references		5
3 Principle		5
4 Reagents		5
5 Apparatus		5
6 Test specimens		6
7 Procedure		6
8 Test report		7

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 12875-5:2006](https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006)

<https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006>

Foreword

This document (EN 12875-5:2006) has been prepared by Technical Committee CEN/TC 194 “Utensils in contact with food”, the secretariat of which is held by BSI.

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 September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

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

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 12875-5:2006

<https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006>

EN 12875-5:2006 (E)**Introduction**

This European Standard specifies an accelerated test for the determination of the dishwashing resistance of catering articles made of ceramics.

Further parts of EN 12875, under the general title *Mechanical dishwashing resistance of utensils* that have already been published or are in preparation are as follows:

Part 1: *Reference test method for domestic articles*

Part 2: *Inspection of non-metallic articles*

Part 4: *Rapid test for domestic ceramic articles*

Part 5: *Rapid test for ceramic catering articles*

The accelerated test is a useful method for predicting the dishwashing resistance of the glaze surface of ceramic products intended for catering use. The catering industry requires significant quantities of products that are decorated on the glaze surface (for example customized or bespoke ware), and such ware may have an overall durability which is lower than that of the glaze surface itself. A convenient method to test on-glaze decorated ware is referred to in the Note to 4.2; however, testing by this modified procedure will not be in accordance with EN 12875-5.

Note that the reference test method (EN 12875-1) is based on a multi-cyclic test in a modified domestic dishwashing machine, and utilizes an alkaline domestic dishwashing detergent.

It is intended that the inspection procedure given in EN 12875-2 be used to examine ceramic catering articles which have been subjected to the rapid test.

1 Scope

This European Standard specifies a rapid method for testing the dishwashing resistance of catering articles made of ceramics. It does not define the number of dishwashing cycles that any given product should withstand. The method tests the dishwashing durability of the glaze surface of the ceramic articles.

2 Normative references

The following referenced documents are indispensable for the application of this European standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12875-2:2001, *Mechanical dishwashing resistance of utensils – Part 2: Inspection of non-metallic articles*

EN ISO 3696:1995, *Water for analytical laboratory use - Specification and test methods (ISO 3696:1987)*

3 Principle

Unused specimens of ware are immersed in a static solution of a specified alkaline dishwashing detergent at (75 ± 1) °C for a total of 16 hours. The specimens are then examined visually and compared with similar, untested pieces to determine any changes in gloss or colour resulting from detergent attack.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

4 Reagents

4.1 Detergent formulation

SIST EN 12875-5:2006

[https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-](https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006)

For the purposes of this test, a liquid detergent having the following chemical composition shall be used:

Technical grade sodium hydroxide	15 % w/w
Nitrilotriacetic acid, trisodium salt	16 % w/w
Water (grade 3 as specified in EN ISO 3696:1995)	69 % w/w

4.2 Detergent solution

2,0 % (w/w) aqueous solution of detergent (4.1) prepared with distilled water or water of equivalent purity (grade 3 water as specified in EN ISO 3696:1995).

NOTE Testing in a 0,3% (w/w) solution of the detergent may provide useful information on the performance of catering ware for special applications, for example on-glaze decorated ware (including gold decoration). However, testing using the 0,3% detergent solution will not be in accordance with EN 12875-5.

Sufficient detergent solution is required to ensure that the total ware surface area to test solution volume does not exceed 130 cm²/l.

5 Apparatus

5.1 Stainless steel tank with a close-fitting stainless steel lid, capable of holding at least 10 litres of detergent solution.

EN 12875-5:2006 (E)

5.2 Stainless steel rack to support the test specimens and to separate individual items from the bottom of the tank and from each other, allowing free access for the detergent solution.

NOTE Certain materials will inhibit the attack of an alkaline washing agent on ceramic articles. These include aluminium and zinc, and any contact with this type of material should be avoided.

5.3 Hot water bath surrounding the stainless steel tank and capable of maintaining the solution temperature within the test tank at $(75 \pm 1) ^\circ\text{C}$, and fitted with:

- a) a circulating pump to maintain an even temperature distribution throughout the test tank;
- b) a temperature monitoring device that records any deviation in the temperature of the solution in the tank during the immersion period.

NOTE The bath may be large enough to contain several tanks.

5.4 Inspection site, as specified in EN 12875-2.

5.5 Precision ruler (engineering grade), graduated in millimetres.

5.6 Thermometer, covering the range $50 ^\circ\text{C}$ to $90 ^\circ\text{C}$ in $0,2 ^\circ\text{C}$ graduations.

6 Test specimens

A test specimen shall be any item of ceramic ware that can be completely immersed in the detergent solution. A minimum of four identical pieces of ware shall be available for test.

iTech STANDARD PREVIEW
(standards.iteh.ai)

7 Procedure

SIST EN 12875-5:2006

[https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-](https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006)

7.1 Preparation of test specimens [4141e621ed49/sist-en-12875-5-2006](https://standards.iteh.ai/catalog/standards/sist/d5ef972e-40d4-4a7a-9be4-4141e621ed49/sist-en-12875-5-2006)

7.1.1 Remove any surface contamination from the test specimens, e.g. by washing the specimens by hand in a mild liquid detergent at about $45 ^\circ\text{C}$, followed by rinsing and drying with a clean cloth.

7.1.2 Place the test specimens in the inspection site and examine them with normal corrected vision from a distance of (30 ± 10) cm, while the viewing angle is changed. All test specimens of a given type shall be of comparable quality in gloss and colour; discard any specimens that are of inferior quality. Retain one specimen as an untested reference standard.

7.2 Immersion of test specimens

7.2.1 Determine the surface area of the test specimens. Fill the tank with sufficient water (see 4.2) to completely cover the specimens. Check for compliance with the surface area to volume criterion given in 4.2; if the calculated surface area approaches the critical limit of $130 \text{ cm}^2/\text{l}$, a greater volume shall be used.

NOTE When determining the surface area of flatware, it is sufficient to determine the surface area of a flat disc having the same circumference as the ware. For other types of ware allowance should be made for curvature and for handles, etc.

7.2.2 Cover the tank and adjust the water bath temperature to give a test tank temperature of $(75 \pm 1) ^\circ\text{C}$. Record the tank temperature.

7.2.3 Add sufficient detergent to give a solution of the correct concentration (see 4.2) in the test tank. Stir well to disperse the detergent. Immediately lower the test specimens, in the racks, into the tank and cover with the lid.