

BESTSUB TECHNOLOGIES CO LTD  
RM810 EXCHANGE SQUARE, NO268 DONGFENG ZHONG ROAD, YUEXIU DISTRICT,  
GUANGZHOU 510030 CHINA

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description : ECO CERAMIC TUMBLER COFFEE MUG  
Style / Item No. : B16KF  
Test Performed : Selected test(s) as requested by applicant  
Sample Receiving Date : May 19, 2014  
Test Performing Date : May 19, 2014 to May 28, 2014  
Test Result(s) : For further details, please refer to the following page(s)

Signed for and on behalf of  
SGS-CSTC Ltd.



Jason Cheung  
Approved Signatory



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755)83071443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch / 广州分公司 / 广州检测实验室

198 Kezhu Road, Sciencetech Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075191 www.sgs.com.cn  
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075191 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

### Part 1 Dishwasher resistance (BS EN 12875)

#### 1. Test conducted:

**BS EN 12875-4: 2006 Mechanical dishwashing resistance of utensils — Part 4: Rapid test for domestic ceramic articles**

**2. Scope:** This European Standard specifies a rapid method for testing the dishwashing resistance of ceramic articles intended for domestic use. It does not define the number of dishwashing cycles that any given product should withstand.

Test sample description :	Mug
Number of Tested Sample(s):	4 Pieces
Number of Controlled Sample(s):	1 Piece

#### 3. Test Procedure:

With reference to BS EN 12875-4: 2006 Test method

#### 4. Test Result as follows:

##### 4.1 After 16hours:

	Articles with or without decoration (Category of articles)	Test specimen number	Color	Gloss	Clouding	Resistant deposits and iridescent layers	Other aspects
Inspector 1	Ceramic Tableware	1#	0	0	/	0	0
		2#	0	0	/	0	0
		3#	0	0	/	0	0
		4#	0	0	/	0	0
Average			0	0	/	0	0
Inspector 2	Ceramic Tableware	1#	0	0	/	0	0
		2#	0	0	/	0	0
		3#	0	0	/	0	0
		4#	0	0	/	0	0
Average			0	0	/	0	0
Overall rating			0	0	/	0	0



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)83071443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CTI Standards Technical Services Co., Ltd.  
Guangzhou Branch / 通标标准技术服务有限公司

198 Kezhu Road, Sciencetech Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075191 www.sgs.com.cn  
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075191 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

4.2 After 32hours:

	Articles with or without decoration (Category of articles)	Test specimen number	Color	Gloss	Clouding	Resistant deposits and iridescent layers	Other aspects
Inspector 1	Ceramic Tableware	1#	0	0	/	0	0
		2#	0	0	/	0	0
		3#	0	0	/	0	0
		4#	0	0	/	0	0
Average			0	0	/	0	0
Inspector 2	Ceramic Tableware	1#	0	0	/	0	0
		2#	0	0	/	0	0
		3#	0	0	/	0	0
		4#	0	0	/	0	0
Average			0	0	/	0	0
Overall rating			0	0	/	0	0

Note:

Classification	Rating
0	No visible change
1	First discernible change
2	Clearly visible change



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)83071443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CTI Standards Technical Services Co., Ltd.  
Guangzhou Branch / 通标标准技术服务有限公司

198 Kezhu Road, Sciencetech Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075191 www.sgsgroup.com.cn  
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075191 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

**Part 2 Microwave resistance (BS EN 15284)**

**1. Test conducted:**

BS EN 15284: 2007 Materials and articles in contact with food stuffs – Test method for the resistance to microwave heating of ceramic, glass, glass-ceramic or plastics cookware

**2. Scope:** This European Standard specifies a method for the determination of the resistance to microwave heating of cookware made of ceramic, glass, glass-ceramic or plastics. It is applicable to articles that are intended for multiple re-use in a microwave oven. It is not applicable to articles, particularly those made from plastics, which are intended to be discarded after one use.

Test sample description :	Mug
Number of Tested Sample(s):	3 Pieces
Number of Controlled Sample(s):	1 Piece

**3. Test Procedure:**

With reference to BS EN 15284: 2007 test method.

**4. Test Requirement:**

4.1 Visually inspect the test specimen for damage according to the criteria in Table 1.

Table 1 --- inspection criteria

Material	Cracking	Crazing	Scaling	Color	Melting	Deformation	Suitability for re-use	Charring
Ceramic	+	+ <sup>a</sup>	+ <sup>b</sup>	+ <sup>c</sup>				
Glass, glass-ceramic	+		+b	+ <sup>c</sup>				
Plastics	+			+ <sup>c</sup>	+ <sup>d</sup>	+	+ <sup>e</sup>	+

(+)= to be inspected

<sup>a</sup> refers to the glaze

<sup>b</sup> refers to on-glaze decoration

<sup>c</sup> if several colors are present on one article to be inspected, the color with the greatest change shall be chosen

<sup>d</sup> article shall not be too soft to handle

<sup>e</sup> article shall be washable and stain resistant

NOTE 1 For the color criterion, an inspector and inspection site that meet the requirements of Clause 4 and 5.2 of EN 12875-2:2001 are required [2]

4.2 The maximum surface temperature of handles after the short period heating (6.6) shall not exceed the following limit values:

ceramic, glass-ceramic or glass: 56 °C;

plastics: 60 °C.



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)83071443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

198 Kezhu Road, Sciencetech Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075191 www.sgs.com.cn  
 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075191 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)



NOTE 1 These temperatures can be found by reference to a one minute contact time in EN ISO 13732-1 [1].

NOTE 2 As temperatures measured after the long period of heating vary significantly depending on the microwave oven used for testing, no temperature limit values apart from those for handles are given.

### 5. Test Result:

Pass

- 1) Visually inspect the test specimen: No visible change.
- 2) The highest surface temperature: 37.8°C (after the short period)  
71.2°C (after the long period)

### Part 3 Thermal Shock Test

**Test Conducted: BS EN 1183-1997 Materials and articles in contact with foodstuffs-Test methods for thermal shock and thermal shock endurance – Test Method B**

- Scope:**
- This European Standard specifies test methods for thermal shock and for thermal shock endurance for brittle materials, for example glass, glass-ceramics and ceramics intended for use in ovens or as tableware.
- Two test methods are described:
- Test method A is used for articles known to be sensitive to thermal shock.
  - Test method B is generally applicable
- The test method to be applied depends on the intended use of the article and/or its thermal shock resistance.

Number of Tested Sample(s)	:	3 Pieces
Number of Controlled Sample(s)	:	1 Piece

### Test Procedure:

- a). Remove any dirt or loose debris from the samples and, if necessary, dry the sample.
- b). Fill the cold water bath with water, containing a staining agent, to a volume equal to not less than five times the apparent volume of the overall dimensions of the samples to be tested (including the volume of the basket) and to a depth sufficient for complete immersion of the samples plus not less than 50mm. Locate to the test oven and adjust and maintain the water temperature to within  $\pm 2^\circ\text{C}$  of the specified lower temperature,  $t_2$ .
- c). Place the samples, either separately or contained in the basket in the test oven which has been previously heated to the upper temperature,  $t_1$ . Maintain the samples at the temperature until they have reached equilibrium.
- d). Remove the samples from the test oven either one at a time, holding them with the tongs or, if the samples are large or contained in the basket, with the gloves. Immerse the samples without impact completely in the cold water bath for a specified period between 8 s and 2 min ensuring that all hollowware is filled with water.

Complete the process of transferring each sample, or the basket with samples, from opening of the test oven to immersion in  $(5 \pm 1\text{s})$ . ensure that the difference in temperature between the test oven and the cold water is not more than  $\pm 3^\circ\text{C}$  from the required temperature value at the time of transference.

- e). Remove the samples from the cold water bath. Inspect immediately each sample for any chipping, cracking, crazing or breakage and determine the number of samples which have failed the test.



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)83071443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

**Test Requirement:**

Inspect immediately each sample for chipping, cracking, crazing or breakage and determine the number of samples which have failed the test.

**Test Result: PASS**

Number of samples	t <sub>1</sub> °C	t <sub>2</sub> °C	t <sub>1</sub> - t <sub>2</sub> °C	Number of failures	Mode of failure
3 Pieces	200	20	180	0	/

### PHOTO APPENDIX



\*\*\*End of Report\*\*\*



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

**Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)83071443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)**

SGS-CSTC Standards Technical Service Co., Ltd.  
Guangzhou Branch / 通标标准技术服务有限公司 广州分公司

198 Kezhu Road, Sciencetech Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t (86-20) 82155555 f (86-20) 82075191 www.sgsgroup.com.cn  
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075191 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)