

TEST REPORT NUMBER: PRTH00095744 Page 1 of 7
APPLICANT: MATCERAMICA-FABRICO DE LOUÇA , S.A. **DATE OF EMISSION:** 16/03/2022
APARTADO 150
OUTEIRO DO SEIXO - VALE DE OURÉM

For the attention of ANA MARQUES

SAMPLE DESCRIPTION: PEDIDO 655
PO 220069
1 - THE TALL BUD VASE DOVE GREY G567=VASO GRANDE (RELEVO RISCAS)
COLUMBIA CINZENTO SEMI-MATE G0567
REF.:VAT-DG-G8400G0567
GRES
DATE OF RECEPTION: 14/03/2022
TEST PERFORMED BETWEEN DATES: 14/03/2022 and 16/03/2022
WORK DAYS: 3
REQUEST: Tests performed in accordance with APPLICANT TEST REQUEST specification
NOTES:

Samples

| Test | 1 |
|--------------------------------------|---|
| * Dishwasher Safe | M |
| Extractable lead & cadmium | M |
| * Impact testing of hollowware - rim | M |
| Thermal Shock | M |

M = Meet buyer's requirement; NM = does not meet buyer's requirement; NR = Not requested; NA = Not applicable; NC = No comment; SC = Still continues

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| Test Method | Results | Requirements |
|-------------|---------|--------------|
|-------------|---------|--------------|

*** Dishwasher Safe**

ITS-M0001

Sample: 1
Test conditions

Shall exhibit no discoloration, rusting, or surface degradation.

Detergent: 107
Rinse aid: 51
Washing cycles: 10
Mass of detergent: 25 g
Washing cycle characteristics: 1
Nº of tested specimens: 3

No apparent changes

Extractable lead & cadmium

SOP 201: 2017-09-28 (Method equivalent to ASTM C738: 94 (2016))

Sample: 1

| Specimen | Cadmium(Cd) (mg/L) | Lead(Pb) (mg/L) |
|----------|-----------------------|--------------------|
| 1 | <0,04 | <0,1 |
| 2 | <0,04 | <0,1 |
| 3 | <0,04 | <0,1 |
| 4 | <0,04 | <0,1 |
| 5 | <0,04 | <0,1 |
| 6 | <0,04 | <0,1 |

| FDA | |
|-----------------|------|
| Limits (mg/L) | |
| Pb | |
| Flatware | 3.0 |
| Small Holloware | 2.0 |
| Large Holloware | 1.0 |
| Cups & Mugs | 0.5 |
| Pitchers | 0.5 |
| Cd | |
| Flatware | 0.5 |
| Small Holloware | 0.5 |
| Large Holloware | 0.25 |
| Cups & Mugs | 0.5 |
| Pitchers | 0.25 |

Sample Capacity: 440 mL
Sample Category: Small Holloware

Quantification limit: Pb:0,1mg/L; Cd:0,04 mg/L
< = Less than

| Proposition 65 | |
|-----------------|-------|
| Limits (mg/L) | |
| Pb | |
| Flatware | 0.226 |
| Small Holloware | 0.1 |
| Large Holloware | 0.1 |
| Cups & Mugs | 0.1 |
| Pitchers | 0.1 |



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Sample: 1

Cd
Flatware 1.8532
Small Holloware 0.1886
Large Holloware 0.0492
Cups & Mugs 0.0492
Pitchers 0.0492

Uncertainty: Cadmium(Cd) ±15% of value; Lead(Pb) ±25% of value

*** Impact testing of hollowware - rim**

BS EN 12980:2000

Sample: 1

Test conditions:

The impact energy to produce failure on ceramic ware and glass ware shall not be less than 0.05 J (0.04 ft-lbf) when the flatware and holloware (consisting of cups, mugs, ovenware or vases) are impact tested at the rim.

Nº of tested articles: 10

Testing plan: b

IMPACT RESISTANCE ON HANDLE

| | Energy (J) | Height (m) | Angular (°) | Energy (ft,lbf) | Length of pendulum (m) | Pendulum (Kg) |
|----|------------|------------|-------------|-----------------|------------------------|---------------|
| 1 | 0,069 | 0,070 | 40 | 0,051 | | |
| 2 | 0,069 | 0,070 | 40 | 0,051 | | |
| 3 | 0,069 | 0,070 | 40 | 0,051 | | |
| 4 | 0,053 | 0,054 | 35 | 0,039 | | |
| 5 | 0,069 | 0,070 | 40 | 0,051 | 0,300 | 0,100 |
| 6 | 0,069 | 0,070 | 40 | 0,051 | | |
| 7 | 0,086 | 0,088 | 45 | 0,064 | | |
| 8 | 0,053 | 0,054 | 35 | 0,039 | | |
| 9 | 0,069 | 0,070 | 40 | 0,051 | | |
| 10 | 0,086 | 0,088 | 45 | 0,064 | | |

Average 0,069 0,071



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Sample: 1

The impact energy to produce failure on ceramic ware and glass ware shall not be less than 0.05 J (0.04 ft-lbf) when the flatware and hollowware (consisting of cups, mugs, ovenware or vases) are impact tested at the rim.

Thermal Shock

BS EN 1183: 1997 - METHOD B

Sample: 1

Time of thermal equilibrium: 60 min

Nr. of samples tested: 10

For ceramic ware and glass ware:
- Oven ware: Temperature difference shall not be less than 302 °F (150 °C);
- Not Oven ware: Temperature difference shall not less than 194 °F (90°C).

| T1(°C) | T2(°C) | T1-T2(°C) | Nº of failures at T1 | Cumulative failures (%) |
|--------|--------|-----------|----------------------|-------------------------|
| 120 | 20 | 100 | 0 | 0 |
| 140 | 20 | 120 | 0 | 0 |
| 160 | 20 | 140 | 0 | 0 |
| 180 | 20 | 160 | 0 | 0 |
| 200 | 20 | 180 | 0 | 0 |
| 220 | 20 | 200 | 0 | 0 |
| 240 | 20 | 220 | 5 | 50 |
| 260 | 20 | 240 | 5 | 100 |

10 100

Thermal Shock endurance

Δt50 (temperature difference at which 50% of the samples have failed) 220



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Sample: 1

°C

S (Standard Deviation) = 10,5

Conclusion: Based on the testes concluded the article should resist thermal shock until a temperature of 220 °C.

For ceramic ware and glass ware:
- Oven ware: Temperature difference shall not be less than 302 °F (150 °C);
- Not Oven ware: Temperature difference shall not less than 194 °F (90°C).

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