

DIVISIONE: **FOOD PACKAGING MATERIALS** LABORATORIO: **FOOD CONTACTS**
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RAPPORTO DI PROVA <i>(Test Report)</i>	Pag. 1 di/of
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N° 1207\FPM\FDC\11 Rev. 1	Data: 11/11/2011 Date:

IDENTIFICAZIONE E DESCRIZIONE DEL CAMPIONE:
 SPECIMEN DESCRIPTION:

ELCLA 1 SCALE PREVENTER (chrome plate brass + NBR + stainless steel + magnets)

DATI IDENTIFICATIVI DEL CLIENTE:
 CLIENT:

ELCLA DI BUSSENI PAOLO E C SAS
 V.LE DUCA DEGLI ABRUZZI, 112
 25124 BRESCIA (BS)

NORMA DI RIFERIMENTO:
 REFERENCE STANDARD:

D.P.R. 777 dated 23/08/1982, D.L. 108 dated 25/01/1992, D.M.34 dated 21/3/73, D.M. 174/04.
 European Directives: 82/711/EEC GUCEE L 297 dated 23/10/82, 85/572/EEC GUCEE L 372 dated 31/12/1985, 93/8/EEC GU L90 dated 14/04/1993, 97/48/EC GUCE L 222 dated 12/8/97. Regulations 1935/2004/EC GUCE L 338 dated 13/11/04 and 1895/2005/EC GUCE L 302 dated 19/11/2005. Regulation 10/2011/EC.
 UNI EN 1186 1÷15:2003.

DISTRIBUZIONE ESTERNA:
 OUTSIDE DISTRIBUTION:

ELCLA DI BUSSENI PAOLO E C SAS
Mr. Busseni

DISTRIBUZIONE INTERNA:
 INSIDE DISTRIBUTION:

Copy to Division Head

ENTE DI ACCREDITAMENTO:
 ACCREDITATION BODY:



GENERALITIES

- Sample receiving date: 28/09/2011
- Analysis start date: 28/09/2011
- Analysis end date: 14/10/2011
- Deviation from test methods: NO

SAMPLE DESCRIPTION

ELCLA 1 SCALE PREVENTER (chrome plate brass + NBR + stainless steel + magnets)

SAMPLING

The initial sampling has been done by the customer.

The sampling for the test has been done drawing casually part of the sample in our possession.

DECLARATION

The test results of the present report are related exclusively to the tested sample.

The present test report cannot be partially reproduced without the authorization of CSI managing Director.

The uncertainties (*) are estimated as extended uncertainty obtained multiplying the standard uncertainty by the coverage factor k corresponding to a confidence level of about 95%. Normally, this factor = 2.

PERFORMED DETERMINATIONS

1) D.M. 174/2004 (DRINKING WATER): OVERALL MIGRATION

Verification of the suitability of articles and materials to be employed in contact with foodstuffs, according to:

D.P.R. 777 dated 23/08/1982, D.L. 108 dated 25/01/1992, D.M.34 dated 21/3/73, DM 174/04.

European Directives: 82/711/EEC GUCEE L 297 dated 23/10/82, 85/572/EEC GUCEE L 372 dated 31/12/1985, 93/8/EEC GU L90 dated 14/04/1993, 97/48/EC GUCE L 222 dated 12/8/97.

Regulations 1935/2004/EC GUCE L 338 dated 13/11/04 and 1895/2005/EC GUCE L 302 dated 19/11/2005. Regulation 10/2011/EC.

UNI EN 1186 1÷15:2003.

Simulating liquid	Contact condition
Distilled water	30 minutes of washing + 24 hours at 40°C



The ratio between exposed sample surface (dm²) and simulating liquid volume has to be included from 0,5 to 2.

The samples have been tested using Total Immersion procedure.

Migration tests have been carried out on the liquid coming from the contact.

LOD (limit of detection): 1 mg/dm².

2) DETERMINATION OF THE COLOURING MIGRATION

Determination of the colouring migration agents from the tested material into liquids obtained from migration test by spectrophotometric analysis in the spectral range 400 - 750 nm, with 10 cm optical path cell for the aqueous simulants and 1 cm for oily simulant according to DM n. 34 dated 21.3.73 (O.S. of the Official Gazette n. 104 dated 20 of April 1973) and subsequent updating.

LOD (limit of detection): 0.05%.

Limit minimum 95% transmittance (T%).

3) D.M. 174/2004 - BRASS, BRONZE AND COPPER – METALS RELEASE

Metals quantification by ICP (Inductely Coupled Plasma) from the simulating liquid.

Results was compared with the drinking water legislation.

LOD: 5 µg/L

4) TASTE ORGANOLEPTIC TEST ACCORDING TO UNI 10192

The taste scoring test is a evaluation of the taste, measured with a 5 point scale. Each judge is asked to taste samples of water coming from the contact with the samples.

They are then asked to give a mark to each water sample they taste:

- 0: no perceivable taste
- 1: little perceivable taste, very difficult to define;
- 2: weak but identifiable taste;
- 3: strong taste;
- 4: very strong taste

The final result is expressed with the average value of the scores given by each judge, coupled with the standard deviation.



Testing conditions:

time of conditioning : 24 hours;
temperature of conditioning : $40 \pm 1^\circ\text{C}$;
simulating liquid: natural mineral water;
sample surface/stimulant vol.: the same as overall migration.

A potential organoleptic impact is to be acknowledged to the sample if the average score plus one time the standard deviation is \geq than 3.

RESULTS

1) D.M. 174 (DRINKING WATER): OVERALL MIGRATION

ELCLA 1 SCALE PREVENTER(chrome plate brass + NBR + stainless steel + magnets)			
Simulating liquid: Distilled water			
Contact condition: 24 hours at 40°C			
Measured unit: mg/Kg			
Measured value	Average value	Extended uncertainty (*)	Limit Value (according to DM 21/03/73)
<5	<5	---	50
<5			
<5			

2) DETERMINATION OF THE COLOURING MIGRATION

ELCLA 1 SCALE PREVENTER(chrome plate brass + NBR + stainless steel + magnets)			
Simulating liquid: Distilled water			
Contact condition: 24 hours at 40°C			
Optical path: 10 cm			
Measured unit: T%			
Minimum Value Measured	Minimum value	Extended uncertainty (**)	Minimum value (according to DM 21/03/73)
100	100	0.5	≥ 95
100			
100			

(**) for this variable the third paragraph of **DECLARATIONS** is not applicable



3) D.M. 174/2004 - BRASS, BRONZE AND COPPER – METALS RELEASE

Simulating liquid: Distilled water								
Contact condition: 24 hours at 40°C								
Unità di misura: µg/L								
Metals	Cd	Pb	Ni	Cr	Cu	Mn	Fe	Zn
ELCLA 1 SCALE PREVENTER(chrome plate brass + NBR + stainless steel + magnets)	< 5	8	16	< 5	< 5	< 5	< 5	511
Limit values (according to Dir. 98/83/CE and D.Lgs 31/01)	5	10	20	50	1000	50	200	-

4) TASTE ORGANOLEPTIC TEST ACCORDING TO UNI 10192

The average scores and the standard deviation obtained from the test are reported in the following table:

Sensory evaluation of Water samples Tasting testing Measurement unit: Arbitrary units		
Sample	Average score	Standard deviation
ELCLA 1 SCALE PREVENTER(chrome plate brass + NBR + stainless steel + magnets)	2,3	0,5



CSI
Certificazione e Testing

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CONCLUSIONS

In the chosen test condition the sample **ELCLA 1 SCALE PREVENTER (chrome plate brass + NBR + stainless steel + magnets)** is suitable to be used in contact with drinking water.

The sample tested by this Laboratory are therefore suitable to come in contact with foodstuff mentioned above on condition that they have been produced employing the monomers, additives and technical support agents according to in force legislation, specific migrations are respected and they do not induce any organoleptic modification on foodstuff.

Date
11/11/2011

Division Head
Alberto Taffurelli

Managing Director
Pasqualino Cau