

European  
Ceramics

## LE REVERSE RANGE

Product Name: **LE REVERSE - VARIOUS COLOUR/FINISHES**

Product Identifier: Refer to tile name and product code on paperwork/packaging

Product Description: A glazed porcelain tile and a water absorption rate of less than 0.50%.

Country Of Origin: Italy

### *Building Code Obligations*

Code Clauses:

B2 – Durability

B2.3.1

C3 – Fire affecting areas beyond the source

D1 – Access routes

D1.3.3

E3 – Internal moisture

E3.3.2, 3.3.3, 3.3.4

G3 – Food preparation and prevention of contamination

G3.3.2

G6 – Airborne and Impact sound

G6.3.1



Note – this building product is not subject to a warning/ban under section 26 of the Building Act 2004

Manufacturer Details:  
European Ceramics Approved  
BPIR COMPLIANT

Importer Details:  
European Ceramic Tiles Ltd  
Address: 7A Cowley Place, Rosedale, AKL 0632  
NZBN: 9429037294571  
Website: euroceramics.co.nz

<b>Scope</b>	<b>Use</b>
B2 Durability	See below suitability table
C3 Fire	The Building Code relating to fire ratings regulation & standards become mandatory from April 2013, establishing the list of products belonging to Classes A 'No Contribution to Fire' provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC.
D1 Access Routes	Refer to slip resistance documentation for all Access routes classifications D1/AS1 for above range.
E3 Internal Moisture	Under E3 Tiles installed over a waterproof membrane using a nonporous grouting system, are an acceptable solution.
G3 Food Preparation & Prevention from Contamination	As an impervious and easy to clean surface, this range complies.
G6 Airborne & Impact Sound	If required, tiles can form part of an acoustic system to comply with IIC & STC in conjunction with an approved third-party system.

<b><i>Suitability *</i></b>	<b><i>Residential</i></b>	<b><i>Light Commercial</i></b>	<b><i>Commercial</i></b>
Indoor Floor	*	*	*
Indoor Walls	*	*	*
Outdoor Cladding	*	*	*
Frost Resistant	*	*	*
Swimming Pool Submerged	*	*	*
Swimming Pool Surround	*	*	*
Paving/External	*	*	*
Over Underfloor Heating	*	*	*
Kitchen wall	*	*	*
Within 1.5m of a Plumbing Fixture or Fitting	*	*	*

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# Building Code References

## ***B2 – Durability***

Compliance with B2 Durability is about providing evidence that the product will meet the relevant durability life in the context of the environment in which it will be located.

The building code sets out the framework for establishing the relevant durability life of building elements based on a number of criteria. B2/AS1 provides a decision tree to establish the relevant durability for common building materials in different circumstances.

Having determined the durability life of the product, the next step is to determine if the product, when exposed to the environment, will continue to perform for the relevant period. A key tool which a product supplier can consider in claiming compliance is limiting the environment in which the product will be exposed to (e.g. a ferrous material used in an indoor environment will last longer than it would when exposed to salt spray — in this example it would be appropriate for the supplier to condition the compliance information to use only in indoor environments).

## ***C3 – Fire affecting areas beyond the source***

C3 Fire affecting areas beyond the fire source is primarily about ensuring that fire does not spread from a fire in the building (in both vertically and horizontally) and from an adjacent building.

The prime product attribute used is the fire resistance rating (FRR) methodology. In most cases a product is combined with other products to achieve a FRR (e.g. an external wall fire rating may be formed by the combination of the external cladding, thermal insulation and the internal lining).

C/AS1 and C/AS2 set out performance criteria for buildings and in particular the FRR requirements for various types of buildings and parts of buildings. Appendix C of C/AS2 sets out test methods for the building elements involved in spread of fire. Appendix B of C/AS2 sets out performance criteria for sprinkler systems while Appendix A sets out criteria for fire safety systems such as alarms and hydrants.

## ***D1 – Access routes***

For D1 access routes, in most cases product-related compliance for access routes is slip resistance for floors and the shapes/locations etc of handrails. The Acceptable Solution for access D1/AS1 and NZS 4121:2001 provide good information on compliance for products on access routes.

## ***E3 – Internal Moisture***

E3 Internal Moisture is about ensuring that moisture created within the building does not lead to mould or create damage to adjacent buildings or structural elements in the building in which it is installed.

Prevention of the creation of mould is a combination of temperature, insulation and ventilation. Prevention of water damaging other building elements is mainly about installation details (i.e. sealing joints) as well as impervious products. E3/AS1 provides some useful design details, albeit without much product material information.

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### G3 – Food preparation and prevention of contamination

G3 Food preparation and prevention from contamination for a product (such as a kitchen bench) is mainly associated with being easily cleaned and impervious. G3/AS1 provides some general design details for food preparation areas but has no referenced product standards, although the document does state some acceptable materials used for surfaces. Compliance with G3/AS1 is not mandatory but provides a good benchmark for compliance.

### G6 – Airborne and Impact Sound

For a product, G6 Airborne and impact sound is generally about systems which are designed to work together to achieve the necessary sound attenuation.

The code itself at G6.3.2 sets a quantifiable performance level: “The Sound Transmission Class of walls, floors and ceilings, shall be no less than 55” and G6.3.2 sets the impact insulation class of floors shall be no less than 55. The Acceptable Solution G6/AS1 sets out the transmission and impact insulation class of common wall systems. G6/VM1 sets out test methodologies where the details do not match those of G6/AS1.

## Technical Information

# LE REVERSE

### IMBALLI\_PACKAGING\_EMBALLAGES\_VERPACKUNGEN

LE REVERSE	Thickness	Pezzi per scatola	M <sup>2</sup> per scatola	Kg per scatola	Scatole per pallet	M <sup>2</sup> per pallet	KG per pallet
120x280 - 48"x112"	6	1	3,36	47,40	20	67,20	968
120x120 - 48"x48"	10	2	2,88	67,00	18	51,84	1.226
80x80 - 32"x32"	10	2	1,28	30,00	40	51,20	1.220
60x60 - 24"x24"	10	3	1,08	25,00	40	43,20	1.020
60x120 - 24"x48"	10	2	1,44	33,50	30	43,20	1.025
40x80 - 16"x32"	10	3	0,96	22,00	56	53,76	1.252
30x30 - 12"x12" mosaico 5x5	10	6	0,54	12,50	30	16,20	395
30x30 - 12"x12" broke	10	6	0,54	12,50	60	32,40	770
29x33 - 11½"x13" muro 3D	10	6	0,58	13,40	30	17,40	422
10x30 - 4"x12"	10	30	0,90	20,50	36	32,40	758
multisize	10	10	1,44	33,50	15	21,60	522,5
modulo 80	10	4	1,28	30,00	40	51,20	1.220
modulo 60	10	6	1,08	25,00	40	43,20	1.020
SKE 2.0 60x60 - 24"x24"	20	2	0,72	32,00	30	21,60	980
SKE 2.0 60x120 - 24"x48"	20	1	0,72	33,40	30	21,60	1.002
SKE 2.0 80x80 - 32"x32"	20	2	1,28	58,50	24	30,72	1.424
SKE 2.0 80x180 - 32"x72"	20	1	1,44	67,00	20	28,80	1.360

### VARIAZIONE CROMATICA\_SHADE VARIATION\_VARIATION CHROMATIQUE\_CHROMATISCHE ABWEICHUNG



**V1**  
aspetto uniforme  
uniform appearance  
aspect uniforme  
Gleichmäßiges Bild



**V2**  
lieve variazione  
slight variation  
légère différence de nuance  
Leichte Abweichung

**ELEGANCE**



**V3**  
moderata variazione  
moderate variation  
variation modérée  
Mäßige Abweichung


**ANTIQUE  
CARVED**



**V4**  
forte variazione  
substantial variation  
variation intense  
Stärke Abweichung

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CARATTERISTICHE E PROPRIETÀ CHARACTERISTICS OR PROPRIETES CARACTERISTIQUES OU PROPRIETES EIGENSCHAFTEN UND EIGENSCHAFTEN	NORME STANDARDS NORMES NORMEN	SECONDO LE NORME COMPLIANCE WITH STANDARDS CONFORME AUX NORMES ENTSPRECHEND DEN NORMEN UNI EN 14411 G				
<b>QUALITÀ DELLA SUPERFICIE</b> - SURFACE QUALITY - QUALITE DE LA SURFACE - OBERFLAECHEQUALITAET	ISO 10545-2	<b>IL 95% MIN DELLE PISTRELLE DEVE ESSERE ESENTE DA DIFETTI VISIBILI</b> / AT LEAST 95% OF THE TILES MUST BE FREE FROM VISIBLE FLAWS / 95% MIN DES CARREUX NE DOIVENT PRESENTER AUCUN DEFILUT VISIBILE / MINDESTENS 95% DER FLESEN MUSSEN FREI VON SICHTBAREN	CONFORME ALLE NORME - COMPLIES WITH STANDARD - CONFORME AUX NORMES - NORMGERECHT			
<b>DEVIAZIONE MASSIMA DI RETTILINEITÀ IN %</b> - MAXIMUM STRAIGHTNESS DEVIATION IN % - MARGE DE TOLERANCE DE RECTITUDE EN % - ZULASSIGE HOECHSTABWEICHUNG DER KANTENGERADHEIT IN PROZENTEN		N ≥ 15cm %	N ≥ 15cm mm	RESULTAT TEST TEST RESULTS RESULTATES DES ESSAIS (SKUFFGERNES)	CONFORME ALLE NORME COMPLIES WITH STANDARD CONFORME AUX NORMES - NORMGERECHT	
<b>DEVIAZIONE AMMISSIBILE IN %, DELLO SPESSORE MEDIO DI OGNI PIASTRELLA DALLA DIMENSIONE DI FABBRICAZIONE</b> - ADMITTED DEVIATION, IN %, OF THE AVERAGE THICKNESS OF EACH TILE FROM THE PRODUCTION DIMENSIONS - MARGE DE TOLERANCE, EN POURCENTAGE, ENTRE L'EPASSEUR MOYENNE DE CHAQUE CARREAU ET LA DIMENSION DE FABRICATION - ZULASSIGE ABWEICHUNG DER DURCHSCHNITTSDICKE JEDER FLEISE VOM HERSTELLMASS IN PROZENTEN		± 0,5 %	± 1,5 mm	± 0,10%	CONFORME ALLE NORME COMPLIES WITH STANDARD CONFORME AUX NORMES - NORMGERECHT	
<b>DEVIAZIONE MASSIMA DI ORTOGONALITÀ IN %</b> - MAXIMUM RIGHT-ANGLE DEVIATION IN % - MARGE DE TOLERANCE D'ANGULARITE IN % - HOECHSTABWEICHUNG DER RECHTWINKLIGKEIT IN PROZENTEN		± 0,5 %	± 0,5 mm	± 5%	CONFORME ALLE NORME COMPLIES WITH STANDARD CONFORME AUX NORMES - NORMGERECHT	
<b>PLANARITÀ</b> - FLATNESS - PLANEITE - EBENFLAECHEIGKEIT		± 0,5 %	± 2,0 mm	± 0,20%	CONFORME ALLE NORME COMPLIES WITH STANDARD CONFORME AUX NORMES - NORMGERECHT	
<b>LUNGHEZZA E LARGHEZZA</b> - LENGTH AND WIDTH - LONGUEUR ET LARGEUR - LANGE UND BREITE		± 0,5 %	± 2,0 mm	± 0,35%	CONFORME ALLE NORME COMPLIES WITH STANDARD CONFORME AUX NORMES - NORMGERECHT	
<b>ASSORBIMENTO D'ACQUA</b> - WATER ABSORPTION - ABSORPTION D'EAU - WASSERAUFNAHME	ISO 10545-3	≤ 0,5 %	E c = 0,04 %			
<b>RESISTENZA ALLA FLESSIONE</b> - BENDING STRENGTH - RESISTANCE A LA FLEXION - BIEGEZUGFESTIGKEIT	ISO 10545-4	R ≥ 35 N/mm²	53 N/mm²			
<b>RESISTENZA ALL'URTO</b> - IMPACT RESISTANCE - RESISTANCE AUX CHOCS - SCHLAGFESTIGKEIT	ISO 10545-5	VALORE DICHIARATO - DECLARED VALUE - VALEUR DECLAREE - ANGEGEBENER WERT	0,88			
<b>RESISTENZA ALL'ABRAZIONE PROFONDA</b> - RESISTANCE TO DEEP ABRASION - RESISTANCE A L'ABRASION PROFONDE - WIDERSTANDSFÄHIGKEIT GEGEN TIEFENABRIEB	ISO 10545-6	≤ 175 mm³	< 128 mm³			
<b>COEFF. DI DILATAZIONE TERMICA LINEARE</b> - COEFFICIENT OF LINEAR THERMAL-EXPANSION - COEFF. D'EXTENSION THERMIQUE LINEAIRE - LINEAR WÄRMEAUSSDEHNUNGS-KOEFFIZIENT	ISO 10545-8	-	α = 7x10 <sup>-6</sup> /°C			
<b>RESISTENZA AGLI SBALZI TERMICI</b> - THERMAL SHOCK RESISTANCE - RESISTANCE AUX ECARTS THERMIQUES - TEMPERATURWECHSELBESTÄNDIGKEIT	ISO 10545-9	TEST SUPERATO SECONDO EN ISO 10545-1 - PASS ACCORDING EN ISO 10545-1 - TEST OBTENUIS SELON EN ISO 10545-1 - TEST LAUT EN ISO 10545-1 BESTANDEN	NESSUN DANNO - NO DAMAGE - AUCUN DOMMAGE - KEIN SCHADEN			
<b>RESISTENZA AL GIELO</b> - FROST RESISTANCE - RESISTANCE AU GEL - FROSTBESTÄNDIGKEIT	ISO 10545-12	TEST SUPERATO SECONDO EN ISO 10545-1 - PASS ACCORDING EN ISO 10545-1 - TEST OBTENUIS SELON EN ISO 10545-1 - TEST LAUT EN ISO 10545-1 BESTANDEN	NESSUN DANNO - NO DAMAGE - AUCUN DOMMAGE - KEIN SCHADEN			
<b>RESISTENZA AGLI AGENTI CHIMICI</b> - CHEMICAL RESISTANCE - RESISTANCE A L'ATTACQUE CHIMIQUE - BÄSTÄNDIGKEIT GEGEN CHEMIKALIEN	ISO 10545-13	UB MIN.	UA ULA UHA			
<b>RESISTENZA ALLE MACCHIE</b> - RESISTANCE TO STAIN - RESISTANCE AUX TACHES - FLECKENFESTIGKEIT	ISO 10545-14	VALORE DICHIARATO - DECLARED VALUE - VALEUR DECLAREE - ANGEGEBENER WERT	Classe 5			
<b>RESISTENZA AL FUOCO</b> - FIRE RESISTANCE - RESISTANCE AU FEU - FEUERWIDERSTAND	EN 13501 - 1	VALORE DICHIARATO - DECLARED VALUE - VALEUR DECLAREE - ANGEGEBENER WERT	CLASSE A1 - A1 FL			
<b>RESISTENZA ALLO SCIVOLAMENTO</b> - SLIP RESISTANCE - RESISTANCE AU GLISSEMENT - BESTÄNDIGKEIT DER RUTSCHHEMMENDE EIGENSCHAFT		S.C.R. C.A S.C.R. G.B D. M. 236 DEL 4.6 1989 ASTM C 1028/07 BOT 3000 ASTM C 1028/07 BOT 3000 ANSI A137.1 BOT 3000 DIN 51130 DIN 51097 ENV 12633 UNI EN 13035 - 4 2011	> 0,40 Dry SCOF > 0,60 Wet SCOF > 0,60 Wet DCOF > 0,42 -	NATURALE ELEGANCE / ANTIQUE	CARVED	CARVED GRIP CARVED <b>SKE2.0</b>
<b>STABILITÀ DEI COLORI ALLA LUCE E AI RAGGI U.V.</b> - COLOUR STABILITY ON EXPOSURE TO LIGHT AND UV RAYS - STABILITE DES COULEURS A LA LUMIERE ET AUX RAYONS UV - FARBECHTHEIT UNTER LICHTENLUS UND UV-STRAHLUNG	DIN 51094	VALORE DICHIARATO - DECLARED VALUE - VALEUR DECLAREE - ANGEGEBENER WERT	CONFORME ALLE NORME - NO VARIATIONS COMPLIES WITH STANDARD - NO VARIATION CONFORME AUX NORMES - PAS DE CHANGEMENTS NORMGERECHT - KEINE ÄNDERUNG			
<b>SKE2.0</b>						
<b>CARICO STATICO</b> - STATIC LOAD - CHARGE STATIQUE - STATISCHER BELASTUNG	EN 12825	VALORE DICHIARATO - DECLARED VALUE - VALEUR DECLAREE - ANGEGEBENER WERT	CENTRO - CENTRE 9,6 KN CENTRO LATO CENTRE POINT OF SIDES 6,5 KN DIAGONALE - DIAGONAL 8,19 KN (CLASSE 3)			
<b>CARICO DINAMICO, PROVA DI URTO DI CORPI DURI</b> - DYNAMIC LOAD CAPACITY, HARD OBJECT IMPACT TEST C, STATIQUE, ESSAI DE CHOC DE CORPS DURS - STATISCHER BELASTUNG, AUSWIRKUNGEN TEST DER HARTEN KÖRPER	EN 12825	VALORE DICHIARATO - DECLARED VALUE - VALEUR DECLAREE - ANGEGEBENER WERT	TEST NON SUPERATO - TEST NOT PASSED TEST A ECHOUE - TEST FEHLGESCHLAGEN			
<b>CARICO DINAMICO, PROVA DI URTO DI CORPI MORBIDI</b> - DYNAMIC LOAD CAPACITY, SOFT OBJECT IMPACT TEST C, STATIQUE, ESSAI D'IMPACT DE CORPS MOUS - STATISCHER BELASTUNG, AUSWIRKUNGEN PRÜFUNG VON WEICHEN KÖRPERN	EN 12825	VALORE DICHIARATO - DECLARED VALUE - VALEUR DECLAREE - ANGEGEBENER WERT	TEST SUPERATO - TEST PASSED TEST REUSSI - TEST BESTANDEN			
<b>RESISTENZA ALLA FLESSIONE, CARICO DI ROTTURA IN N</b> - BENDING STRENGTH, BREAKING FORCE IN N - RESISTANCE A LA FLEXION, CHARGE DE RUPTURE IN N - BIEGEFESTIGKEIT, BRUCHLAST EN N	EN 1339	Kn 14,38	CLASSE U14			
<b>CARICO DI ROTTURA IN MPA</b> - BREAKING FORCE IN MPA - CHARGE DE RUPTURE IN MPA - BRUCHLAST EN MPA		-	MPa 46,5			

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## Fire Resistance

The building code relating to fire rating regulations and standards requires specifiers to provide documentation such as fire certificates for materials used in construction.

Ceramics are in itself a fire-resistant material, mostly being manufactured at over 1200 degrees Celsius. Testing and providing such certification are therefore not relevant to the Ceramics industry.

Ceramic and Porcelain tiles are an inert material, and therefore non-combustible. They do not release fumes or toxic gases in the event of a fire. Porcelain tiles contain no sealants, waxes or other chemicals that could release VOC's into the environment. Ceramics do not pose a risk of spreading or intensifying a fire therefore there is no testing required as they do not contribute to a fire.

### **EXTRAORDINARY EFFECTS DURING USE PHASE:**

**Fire:** According to /EN 13501-1:2007+A1:2009/, ceramic tiles can be classified as A1 class of fire resistance rating, because they do not contribute to fire.

It has been demonstrated that the coating of the ceramic tiles, in case of fire, reduces heat on them and thus the risk of collapse.

**Water:** Ceramic tiles cannot react with water because they are an insoluble material.

**For further information on the physio-characteristics of fire resistance for tiles please refer to the Technical Documents section on [euroceramics.co.nz](http://euroceramics.co.nz)**

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