

# Livorno

*porcelain stoneware*



**CANCOS**  
TILE & STONE

# EXTRA





ELELIEX1224  
ELELIEX1224L



M+P | 12x24 |

ELELIEX2448L



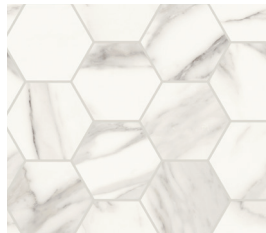
P | 24x48 |

ELELIEX312L



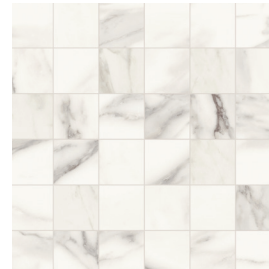
P | 3x12 |

ELELIEXHEX4L



P | 4x4 hex |

ELELIEXMOS22



M | 2x2 mosaic |

ELELIEXWEAVEL



P | basketweave |

ELELIEXBN324  
ELELIEXBN324L



M+P | 3x24 bullnose |

# GOLD





ELELIGO1224  
ELELIGO1224L



M+P | 12x24 |

ELELIGO2448L



P | 24x48 |

ELELIGO312L



P | 3x12 |

ELELIGOHEX4L



P | 4x4 hex |

ELELIGOMOS22



M | 2x2 mosaic |

ELELIGOWEAVEL



P | basketweave |

ELELIGOBN324  
ELELIGOBN324L



M+P | 3x24 bullnose |

# SILVER





*Silver*

ELELISI1224  
ELELISI1224L



M+P | 12x24 |

ELELISI2448L



P | 24x48 |

ELELISI312L



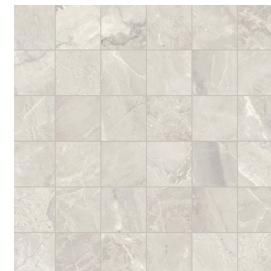
P | 3x12 |

ELELISIHGX4L



P | 4x4 hex |

ELELISIMOS22



M | 2x2 mosaic |

ELELISIWEAVEL



P | basketweave |

ELELISIBN324  
ELELISIBN324L



M+P | 3x24 bullnose |

# VENATINO







*Venatino*

ELELIVE1224  
ELELIVE1224L



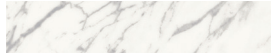
M+P | 12x24 |

ELELIVE2448L



P | 24x48 |

ELELIVE312L



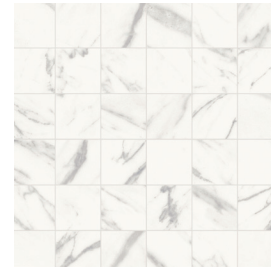
P | 3x12 |

ELELIVEHEX4L



P | 4x4 hex |

ELELIVEMOS22



M | 2x2 mosaic |

ELELIVEWEAVEL



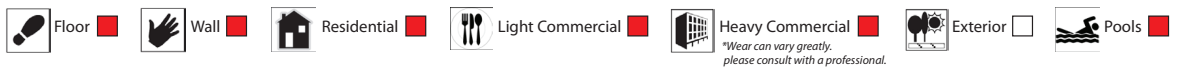
P | basketweave |

ELELIVEBN324  
ELELIVEBN324L

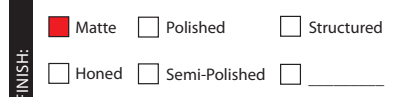
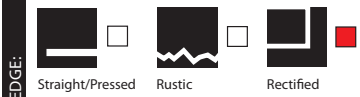


M+P | 3x24 bullnose |

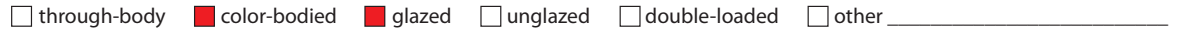
## Suggested Applications



## Installation Suggestions



## Porcelain Type



## Shade Variation



## Slip Resistance

DCOF	Values	Applications
0.44	0.42	Recommended Standard DCOF value for wet/dry commercial flooring
	0.65	Recommended Standard DCOF value for ADA ramps

ASTM C-1028  
ANSI A137.1  
DIN 51097/51130

DIN 51130 \*R9: Industry Standard/ADA Requirements \*\*R11: Recommended For Exteriors

<input checked="" type="checkbox"/> R9* (3-10°)	<input type="checkbox"/> R10 (10-19°)	<input type="checkbox"/> R11** (19-27°)
<input type="checkbox"/> R12 (27-35°)	<input type="checkbox"/> R13 (>35°)	

### DIN 51097

Class	Typical Applications	Critical Angle
<input type="checkbox"/> A	Barefoot, but mainly dry aisles and walkways, dry changing areas	≥12°
<input type="checkbox"/> B	Shower rooms, pool surrounds, wet changing areas, disinfectant spray areas (plus all Class A areas)	≥18°
<input type="checkbox"/> C	Areas constantly under water, e.g. steps into pools, foot baths, included pool surrounds, jacuzzis (plus all Class A&B areas)	≥24°

## Scratch Resistance

MOH'S SCALE  
UNI EN ISO  
10545.6

### MINERAL

- Talc (Talc)
  - Gypsum (Fingernail)
  - Calcite (Penny)
  - Flourite (Some Marbles)
  - Apatite (Knife Blade)
  - Microline (Glass, Glazed Tile)
  - Quartz (Unglazed Porcelain)
  - Topaz (Granite)
  - Corundum (Ruby)
  - Diamond (Diamond)
- Industry standard ≤175mm<sup>2</sup>

## Wear Resistance

PEI RATING  
UNI EN ISO  
10545.7

- Class 1: Walls only
  - Class 2: Residential floors w/minimal abrasive traffic
  - Class 3: Residential interiors/light commercial traffic
  - Class 4: Medium commercial applications
  - Class 5: All commercial applications/heavy traffic
- \*Wear can vary greatly. please consult with a professional.

## Stain Resistance

ASTM C1378-04  
UNI EN ISO  
10545.14

3-5

- Removed after 5 minutes (hot water running)
- Removed by manual cleaning (weak detergent)
- Removed by mechanical cleaning (strong detergent)
- Removed by immersion (24 hrs in suitable solvent)
- Stain not removed

## Water Absorption

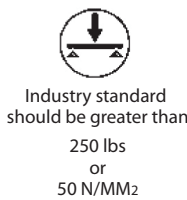
ASTM C-373  
UNI EN ISO  
10545.3

<input checked="" type="checkbox"/> Absorbs 0-.5%	<input type="checkbox"/> Absorbs .5-3%	<input type="checkbox"/> Absorbs 3-7%	<input type="checkbox"/> Absorbs 7% +
<b>Impervious</b> Interior/Exterior Frost Resistant	<b>Vitreous</b> Interior/Exterior Frost Resistant	<b>Semi-Vitreous</b> Indoor Use Only	<b>Non-Vitreous</b> Indoor Use Only

## Breaking Strength

ASTM C648  
UNI EN ISO  
10545.4

>45 n/mm<sup>2</sup>



## Facial Dimension

ASTM c499-09  
UNI EN ISO  
10545.02

	Standard	Tolerance	Result
flatness	±5mm	±.5%	PASS
thickness	±6mm	±.5%	PASS
straightness	±4.5mm	±.5%	PASS
squareness	±5.4mm	±.6%	PASS
sides L/W	±1.1mm ±4.5mm	±.5%	PASS

## Chemical Resistance

ASTM C650  
UNI EN ISO  
10545.13

Allowances for:

result	
Acid	PASS
Bases	PASS
Chemicals	PASS

## Leed Information



REQUIREMENTS FOR COMMERCIAL INTERIORS/NEW CONSTRUCTION

Sustainable Sites	1 Point
Site selection SS CREDIT 1 Heat Island Effect-non roof Material with a solar reflectant index of at least 29.	<input checked="" type="checkbox"/>
Energy & Atmosphere	1 Point
EA CREDIT 4 Green Power: Products that optimize energy performance for floors and walls using thermal conductivity. BTU-FT	<input checked="" type="checkbox"/>
Indoor Environmental Quality Low-Emitting Materials-Flooring Systems	1 Point
IEQ CREDIT 3.1-7 Green Cleaning: Reducing occupants exposure to hazardous cleaning chemicals.	<input type="checkbox"/>
IEQ CREDIT 4.1 Low Emitting Adhesives: Products less than 65 G/L VOC	<input type="checkbox"/>
IEQ CREDIT 4.3 Low Emitting Materials: Flooring systems.	<input checked="" type="checkbox"/>

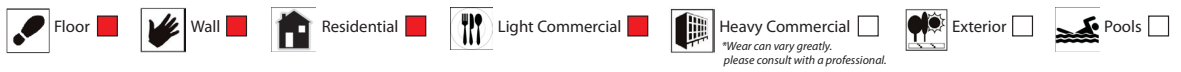
Materials & Resources	1 Point	2 Points
M&R CREDIT 2 Construction Waste Management: Recycling salvaged construction waste in to new reusable materials.	50% <input type="checkbox"/>	70% <input checked="" type="checkbox"/>
M&R CREDIT 4.1-4.2 Recycled Content: The sum of post consumer plus 1/2 of the pre consumer reps at least 10-20% of total value of materials.	10% <input type="checkbox"/>	20% <input checked="" type="checkbox"/>
M&R CREDIT 5 Regional Materials: Materials manufactured within 500 miles of the project site.	10% <input type="checkbox"/>	20% <input type="checkbox"/>
Innovation in Design	1-5 Points	
ID CREDIT 1 Innovation in Design Measurable exemplary environmental performance.	<input checked="" type="checkbox"/>	

Type:  
Porcelain Stoneware  
(Matte Finish)

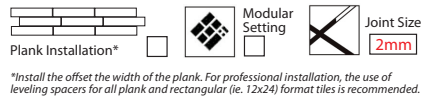
Product Line:  
LIVORNO

\*The marketing name for this product is property of Cancos Tile & Stone. This same product may be marketed under different names.\*

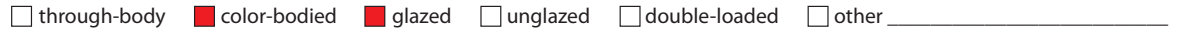
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## Installation Suggestions



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R9\* (3-10°)  R10 (10-19°)  R11\*\* (19-27°)  
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ASTM C-1028  
ANSI A137.1  
DIN 51097/51130

DIN 51097		
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MOH'S SCALE  
UNI EN ISO  
10545.6

MINERAL	
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2. Gypsum (Fingernail)	7. Quartz (Unglazed Porcelain)
3. Calcite (Penny)	8. Topaz (Granite)
4. Fluorite (Some Marbles)	9. Corundum (Ruby)
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Industry standard ≤175mm<sup>2</sup>

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UNI EN ISO  
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10545.14

3,4

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UNI EN ISO  
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Type:  
**Porcelain Stoneware (Polished Finish)**

Product Line:  
**LIVORNO**

*\*The marketing name for this product is property of Cancos Tile & Stone. This same product may be marketed under different names.\**



**CANCOS**  
TILE & STONE