



Centro Tecnológico  
del mármol

NATURAL STONE LABORATORY TESTING



Price list 2.023 Rev.2

(\* ) Tests accredited by ENAC

**Natural stone:**

PN001	* Petrographic examination	EN 12407:2020	232,00
PN002A	Geometric characteristics	EN 13373:2020	30,00
PN003	* Water absorption at atmospheric pressure	EN 13755:2008	120,00
PN004A	* Apparent density and open porosity	EN 1936:2006	123,00
PN006	* Abrasion resistance: method A (Capon)	EN 14157:2017	208,00
PN007A	* Frost resistance: Identification test until 14 cycles	EN 12371:2010	234,00
PN007B	* Frost resistance: Identification test until 56 cycles	EN 12371:2010	508,00
PN007C	* Frost resistance: Identification test until 84 cycles	EN 12371:2010	669,00
PN007E	* Frost resistance: Identification test until 168 cycles	EN 12371:2010	1110,00
PN008A	* Frost resistance: Technological test (lost of flexural strength under concentrated load after 14 cycles)	EN 12371:2010	232,00
PN008B	* Frost resistance: Technological test (lost of flexural strength under concentrated load after 48/56 cycles)	EN 12371:2010	503,00
PN008D	* Frost resistance: Technological test (lost of compressive strength after 48/56 cycles)	EN 12371:2010	574,00
PN009A	* Compressive strength	EN 1926:2006	172,00
PN009B	Compressive strength	EN 772-1:2011	172,00
PN010	* Flexural strength under concentrated load	EN 12372:2022	127,00
PN011	* Flexural strength at a constant moment	EN 13161:2008	134,00
PN012A	* Breaking load at a dowel hole: Identification test	EN 13364:2001	203,00
PN012B	* Breaking load at a dowel hole: Technological test	EN 13364:2001	203,00
PN012C	* Breaking load at a dowel hole (without cement)	PE 17	163,00
PN012F	Resistance to anchorage (grooved slabs)	EAD 090062-00-0:2018	183,00
PN012H	Resistance to anchorage (axial tension)	EAD 090062-00-0:2018	275,00
PN013	* Resistance to salt crystallisation	EN 12370:2020	354,00
PN015	Knoop hardness	EN 14205:2003	123,00
PN016	* Rupture energy (by impact)	EN 14158:2004	83,00
PN017A	* Water absorption coefficient by capillarity	EN 1925:1999	129,00
PN017B	Water absorption due to capillary action	EN 772-11:2011	129,00
PN019C	* Resistance to ageing by thermal shock	EN 14066:2013	349,00
PN019D	* Sensivity to changes in appearance produced by thermal cycles	EN 16140:2019	222,00
PN020A	* Slip resistance by means of the pendulum tester (wet and dry conditions)	EN 14231:2003	180,00
PN020J	* Slip/skid resistance value (wet conditions)	EN 16165:2021	121,00
PN020K	* Slip/skid resistance value (wet conditions)	UNE-EN 16165:2022 + AN	153,00
PN020R	Slip/skid resistance value (dry conditions)	UNE-EN 16165:2022 + AN	190,00
PN023	Surface roughness	EN ISO 4288:1997	105,00
PN035A	Initial adhesion	PE 31	234,00
PN035B	Adhesion after 20 thermal shock cycles	PE 31	360,00
PN035C	Adhesion after 48/56 frost/thaw cycles	PE 31	439,00
PN036	Wet tensile adhesion strength	PE 31	245,00
PN050	Organic matter content		102,00
PN051A	Thermal expansion coefficient	PE 28	133,00
PN054	Sound speed propagation	EN 14579:2004	111,00
PN066B	Resistance to stains	EN 16301:2022	206,00
PN077	Dynamic modulus of elasticity	EN 14146:2004	131,00

**Dimensioned stone:**

PN025	* Absorption and bulk specific gravity	ASTM C97/C97M-18	123,00
PN026	* Modulus of rupture	ASTM C99/C99M-18	127,00
PN027	* Compressive strength	ASTM C170/C170M-17	172,00
PN028A	* Flexural strength	ASTM C880/C880M-18	129,00
PN029B	* Abrasion resistance	ASTM C1353/C1353M-20	181,00
PN078B	Resistance to rapid freezing and thawing (lost of flexural strength after 125 cycles, method B)	ASTM C666/C666M-15	554,00
PN078C	Resistance to rapid freezing and thawing (125 cycles, method A)	ASTM C666/C666M-15	802,00
PN080	Petrographic examination	ASTM C1721-21a	236,00
PN084A	Strength of individual stone anchorages	ASTM C1354/C1354M-21	195,00
PN120	Dynamic coefficient of friction DCOF	ANSI A326.3-2021	255,00



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**Slates for roofing:**

PT039	Geometric characteristics	EN 12326-2:2011	30,00
PT040	Flexural strength	EN 12326-2:2011	259,00
PT041	Water absorption	EN 12326-2:2011	123,00
PT042	Freeze-thaw	EN 12326-2:2011	475,00
PT044	Sulphur dioxide exposure	EN 12326-2:2011	271,00
PT045	Thermal cycle	EN 12326-2:2011	222,00
PT046	Petrographic examination of thin sections	EN 12326-2:2011	232,00

**Agglomerated stone:**

PA055	* Apparent density and water absorption	EN 14617-1:2013	115,00
PA056	* Flexural strength	EN 14617-2:2016	127,00
PA058	Freeze-thaw resistance	EN 14617-5:2012	309,00
PA059	* Thermal shock resistance	EN 14617-6:2012	289,00
PA060	* Impact resistance	EN 14617-9:2005	83,00
PA061	* Chemical resistance	EN 14617-10:2012	174,00
PA062C	Thermal expansion coefficient (30-130°C)	EN 14617-11:2006	153,00
PA067B	* Slip resistance by means of the pendulum tester (wet and dry conditions)	EN 14231:2003	180,00
PA067F	* Slip/skid resistance value (wet conditions)	EN 16165:2021	121,00
PA067H	* Slip/skid resistance value (wet conditions)	UNE-EN 16165:2022 + AN	153,00
PA067I	* Slip/skid resistance value (dry conditions)	UNE-EN 16165:2022 + AN	190,00
PA069	* Abrasion resistance	EN 14617-4:2012	129,00
PA070	Electrical resistivity	EN 14617-13:2013	125,00
PA071	Dimensional stability	EN 14617-12:2012	83,00
PA072	Knoop hardness	EN 14205:2003	123,00
PA073	Initial adhesion	PE 31	234,00
PA075	Dimensions, geometric characteristics and surface quality	EN 14617-16:2006	231,00
PA076A	Weathering by exposure to filtered xenon-arc radiation. Method A: daylight, (200 h)	EN ISO 4892-2:2013	187,00
PA076B	Weathering by exposure to filtered xenon-arc radiation. Method C, window light, (200 h)	EN ISO 4892-2:2013	187,00
PA107A	Resistance to anchorage (grooved slabs)	EAD 090062-00-0:2018	183,00
PA107C	Resistance to anchorage (axial tension)	EAD 090062-00-0:2018	275,00
PA129	Dynamic coefficient of friction DCOF	ANSI A326.3:2021	250,00

**General conditions**

The CTM reserves the right to modify the prices without notice.

Sending of samples will be paid by the customer.

For tests which are requested by customers a detailed offer will be presented, and this proposal will contain prices and specific conditions, as well as the samples specifications. Acceptance of the offer should be sent in writing before beginning tests. If the customer has doubts about the terms of the offer, or this offer doesn't serve the customer exact needs, customers should contact the laboratory before testing begins.

The CTM guarantees the confidentiality of received information and the results included in the report. All information to third parties must be previously authorised in writing by the petitioner.

Clients who request tests, will have access to laboratory facilities to be present when tests, whenever this is possible.

For each test carried out an independent report will be done, in Spanish + English or Spanish + French.

Results in the reports will refer only to the samples and information provided by the customer. The CTM is not responsible for the representativity with respect to the marketed product.

Specimens not destroyed will remain stored for 3 months from completion of tests, at the disposition of the customer which requested them.

Complaints about test results should be made in writing, addressed to the test laboratory CTM.