

**TODAGRES<sup>®</sup>**

THE TECHNICAL PORCELAIN COMPANY

**OTTAWA**

FICHA TÉCNICA. TECHNICAL DATA SHEET

**TODAGRES** Quality Control Department **CERTIFIES**, that this product meets the following Technical Characteristics:

<b>SERIES</b>	<b>OTTAWA</b>	<b>SIZE</b>	<b>60X120</b>
<b>COLOR</b>		<b>FINISH</b>	<b>POLISHED</b>
<b>THICKNESS</b>	<b>7,5 MM</b>		

<b>TECHNICAL CHARACTERISTICS</b>	<b>TEST STANDARD UNE - EN ISO</b>	<b>PRODUCT STANDARD ISO 13006</b>	<b>TODAGRES AVERAGE VALUES RECTIFIED</b>
----------------------------------	---------------------------------------	---------------------------------------	--

**DIMENSIONAL CHARACTERISTICS**

LENGTH AND WIDTH	10545-2	± 0,6 %	± 0,1 %
THICKNESS	10545-2	± 5,0 %	± 5,0 %
STRAIGHTNESS OF SIDES	10545-2	± 0,5 %	± 0,1 %
RECTANGULARITY	10545-2	± 0,6 %	± 0,2 %
WARPAGE	10545-2	± 0,5 %	± 0,25 %

**PHYSICAL PROPERTIES**

WATER ABSORTION	10545-3	≤ 0,5%	< 0,1 %
BREAKING STRENGTH ( N )	10545-4	mín. 1300	1400
MODULUS OF RUPTURE ( N/mm2 )	10545-4	mín. 35	53
RESISTANCE TO DEEP ABRASION ( mm3 )	10545-6	máx. 175	130
COEFFICIENT OF LINEAR THERMAL EXPANSION ( 1/K )	10545-8	TEST METHOD AVAILABLE	6,3 x 10 <sup>-6</sup>
THERMAL SHOCK RESISTANCE	10545-9	TEST METHOD AVAILABLE	RESIST
MOISTURE EXPANSION ( mm/m )	10545-10	TEST METHOD AVAILABLE	< 0,1
FROST RESISTANCE	10545-12	REQUIRED	RESIST

**CHEMICAL PROPERTIES**

RESISTANCE TO HOUSEHOLD CHEMICAL AND SWIMMING POOL SALTS	10545-13	mín. B	A
RESISTANCE TO LOW CONCENTRATIONS / ACIDS	10545-13	INDICATED BY MANUFACTURER	LA
RESISTANCE TO LOW CONCENTRATIONS / ALKALIS	10545-13	INDICATED BY MANUFACTURER	LB
RESISTANCE TO LOW CONCENTRATIONS / ACIDS	10545-13	TEST METHOD AVAILABLE	HA
RESISTANCE TO LOW CONCENTRATIONS /ALKALIS	10545-13	TEST METHOD AVAILABLE	HB
RESISTANCE TO STAINING	10545-14	TEST METHOD AVAILABLE	5

PORCELAIN products belong to the GROUP BIa "ceramic tiles dry pressed, which have a low water absorption" (E < 0,5 %). Limits to this group are available on Standard ISO 13006, more exactly on annexe BIa.

This product fulfils specifications required by International Norm ISO 13006 annexe BIa, by European Norm EN 14411, and by Spanish Norm UNE-EN 14411 annexe G.

Quality Control Dept. manager



**TODAGRES** Quality Control Department **CERTIFIES**, that this product meets the following Technical Characteristics:

<b>SERIES</b>	<b>OTTAWA</b>	<b>SIZE</b>	<b>80X80</b>
<b>COLOR</b>		<b>FINISH</b>	<b>POLISHED</b>
<b>THICKNESS</b>	<b>7,5 MM</b>		

TECHNICAL CHARACTERISTICS	TEST STANDARD UNE - EN ISO	PRODUCT STANDARD ISO 13006	TODAGRES AVERAGE VALUES RECTIFIED
---------------------------	-------------------------------	-------------------------------	---

**DIMENSIONAL CHARACTERISTICS**

LENGTH AND WIDTH	10545-2	± 0,6 %	± 0,1 %
THICKNESS	10545-2	± 5,0 %	± 5,0 %
STRAIGHTNESS OF SIDES	10545-2	± 0,5 %	± 0,1 %
RECTANGULARITY	10545-2	± 0,6 %	± 0,2 %
WARPAGE	10545-2	± 0,5 %	± 0,25 %

**PHYSICAL PROPERTIES**

WATER ABSORTION	10545-3	≤ 0,5%	< 0,1 %
BREAKING STRENGTH ( N )	10545-4	mín. 1300	1400
MODULUS OF RUPTURE ( N/mm <sup>2</sup> )	10545-4	mín. 35	53
RESISTANCE TO DEEP ABRASION ( mm <sup>3</sup> )	10545-6	máx. 175	130
COEFFICIENT OF LINEAR THERMAL EXPANSION ( 1/K )	10545-8	TEST METHOD AVAILABLE	6,3 x 10 <sup>-6</sup>
THERMAL SHOCK RESISTANCE	10545-9	TEST METHOD AVAILABLE	RESIST
MOISTURE EXPANSION ( mm/m )	10545-10	TEST METHOD AVAILABLE	< 0,1
FROST RESISTANCE	10545-12	REQUIRED	RESIST

**CHEMICAL PROPERTIES**

RESISTANCE TO HOUSEHOLD CHEMICAL AND SWIMMING POOL SALTS	10545-13	mín. B	A
RESISTANCE TO LOW CONCENTRATIONS / ACIDS	10545-13	INDICATED BY MANUFACTURER	LA
RESISTANCE TO LOW CONCENTRATIONS / ALKALIS	10545-13	INDICATED BY MANUFACTURER	LB
RESISTANCE TO LOW CONCENTRATIONS / ACIDS	10545-13	TEST METHOD AVAILABLE	HA
RESISTANCE TO LOW CONCENTRATIONS /ALKALIS	10545-13	TEST METHOD AVAILABLE	HB
RESISTANCE TO STAINING	10545-14	TEST METHOD AVAILABLE	5

PORCELAIN products belong to the GROUP BIa "ceramic tiles dry pressed, which have a low water absorption" (E < 0,5 %). Limits to this group are available on Standard ISO 13006, more exactly on annexe BIa.

This product fulfils specifications required by International Norm ISO 13006 annexe BIa, by European Norm EN 14411, and by Spanish Norm UNE-EN 14411 annexe G.

Quality Control Dept. manager

