MECHANICAL RESISTANCE TESTS

MONOLITE IPERGRES

TECHNICAL CERAMIC

Mechanical Resistance Tests

SUPPORTS AND LOADING CONDITIONS

The Department of Industrial Engineering and Mathematical Sciences of Marche Polytechnic University of Ancona has carried out several tests on **MONOLITE IPERGRES®** Technical Ceramic.

These tests have deepen verified **MONOLITE IPERGRES®** features to identify reliable performances and parameters to be use in FEM (Finished Element Method) analysis.

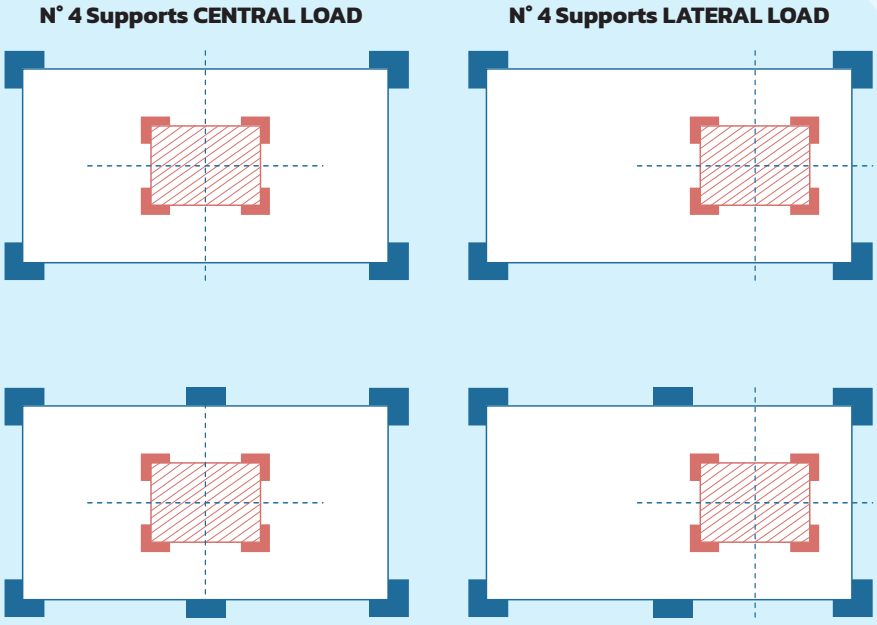
We have been able to tune a customized a FEM simulation software to estimate the Maximum Static Load to apply on a worktop surface in safety conditions.

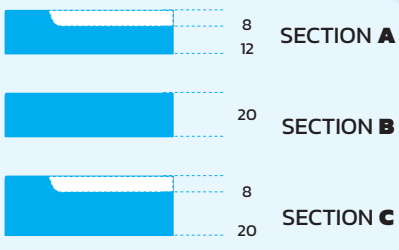
Safety conditions means that all strengths in the product sections must be less than 50% of Average Breaking Strength of **MONOLITE IPERGRES®** technical ceramic: **safety factor 2.**

Three different and significant sections and typologies of worktops have been verified considering number and position of worktop supports and loading conditions:

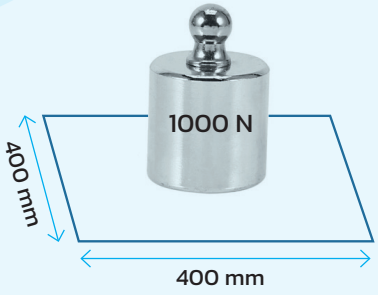
▶ Two loading conditions have been verified: central and lateral load.

▶ Two different number and position of worktop supports have been considered: n° 4 and n° 6, one on each edge plus 2 in the middle of long sides





To simulate realistic load conditions, the weight of an appliance on a worktop it has been considered a load distributed on four supports at a distance of 400 mm each other.

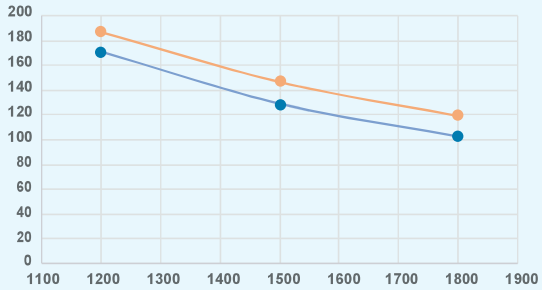


Mechanical Resistance Tests

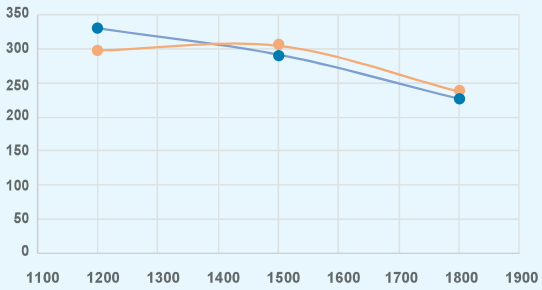
RESULTS FOR THREE TYPES OF WORKTOPS

To simulate the behaviors of the three sections, A-B-C, three different lengths of worktops, 1200 - 1500 and 1800 mm, have been analyzed under load using our **MONOLITE IPERGRES®** customized FEM software.

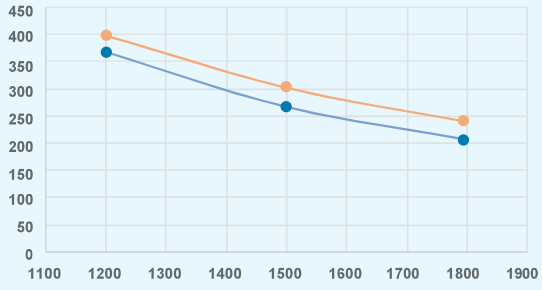
SECTION A 12+8 mm 4 supports



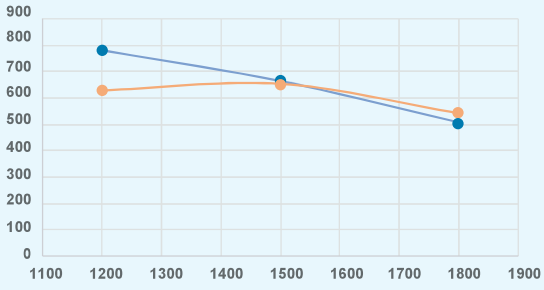
SECTION A 12+8 mm 6 supports



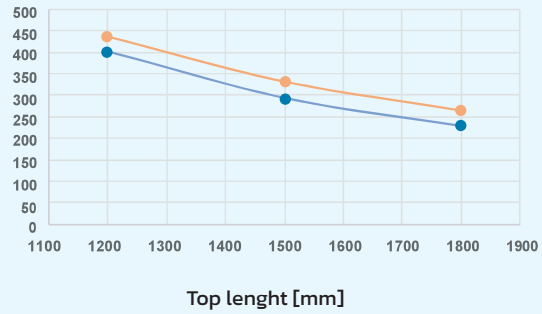
SECTION B 20 mm 4 supports



SECTION B 20 mm 6 supports



SECTION C 20+8 mm 4 supports



SECTION C 20+8 mm 6 supports