

World Ceramic Tiles Forum Update on ISO/TC 189 WG1

Luciano Galassini – Confindustria Ceramica



To be addressed...



Items discussed:

- ISO 10545- 6 & 10545-7, proposal from Spain: the results presented by Italy outline some critical aspects that require further study prior to submitting the proposed test method as a WI
- ISO 10545-12 Determination of frost resistance: no further info (as required) has been received; it is agreed to circulate the standard as it is now and to wait for formal & justified comments
- ISO 10545-16: a draft wil be prepared to include both colour measurements and determination of LRV.

Water absorption

Water absorption: discussion on the test methods:
ASTM 373 (5 hrs boiling), ISO 10545-3 2 hrs boiling:
point 5.5.1, ISO 10545-3 vacuum (residual pressure:
10 kPa) point 5.1.2.

There are some correlations especially at “low WA”
($<0,2\%$ ISO boiling) and at “high WA” ($> 3,5 \%$ ISO
boiling)

Water absorption



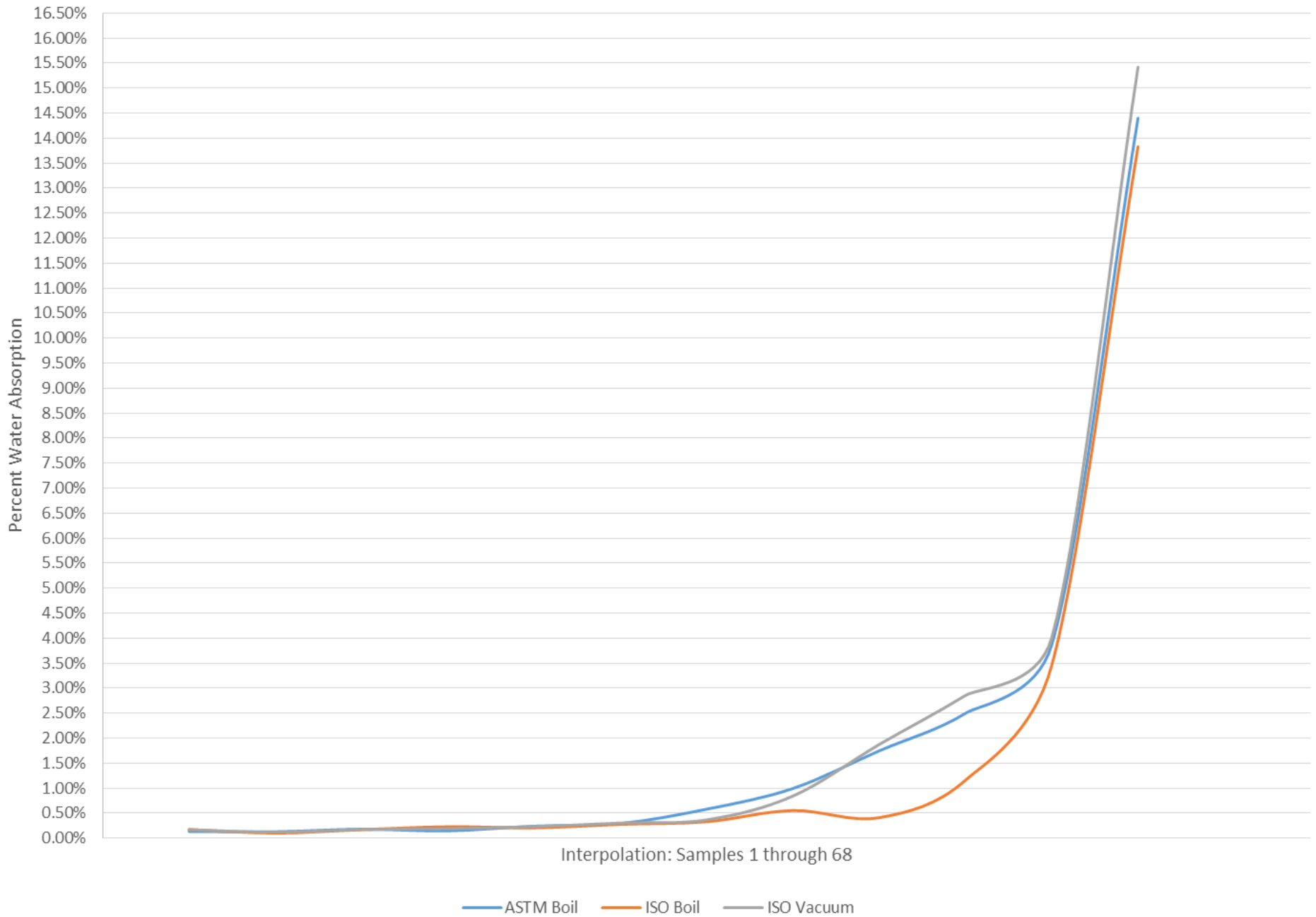
- Relevant test methods in the US and internationally
 - ASTM C373
 - ISO 10545-3 (boil and vacuum method)
- Main differences
 - ASTM C373: most saturation, but most time required
 - 5 hour boil followed by 24 hour soak
 - ISO 10545-3 (boil): less saturation, but quicker than ASTM C373
 - 2 hour boil followed by 4 hour soak
 - ISO 10545-3 (vacuum): quickest test, but not used as basis for classification according to ISO 13006
 - 30 minute vacuum, followed by 15 minute soak

Water absorption



- What are the issues?
 - Differences in saturation levels, especially for tiles between 0.25% and 0.5% create market confusion around the term “porcelain”
 - Ambiguities in current test method language, variation in procedural interpretation from lab to lab
 - Need for a quicker test
 - Need for full saturation, especially in North America
 - Would be nice to harmonize procedures globally
- Objective
 - Test method which correlates to ASTM C373 (full saturation) but requires a fraction of the time

Comparison of Different Water Absorption Methodologies



Water absorption



A discussion is ongoing, but there are “critical points” to be considered:

At present ceramic manufacturers “calibrated” their process (body composition, firing schedule, etc) in view of the classification based on the ISO boiling.

A change in the test method would affect also the Customs classification should the proposal under discussion be approved.