

Whiteware

Whiteware Members

Whiteware Solutions

FIRING

SHAPING

GLAZING-DECORATION

GRINDING

LABORATORY

Solutions

S.M.A.R.T. PORCELAIN

ENERGY SAVING

TECHNOLOGY

SAVINGS

PRODUCT PROPERTIES

CONCEPT SOLUTIONS



It's time for **S.M.A.R.T. Porcelain**

A Simplified plant, Modern and ecological, Advantageous in cost savings, for Resilient and bright Tableware



Alternative Product for Household and Hotel Porcelain

**Porcelain body from Imerys Tableware to be fired at 1250 °C in
reduction atmosphere**

**Same physical properties as „standard“ hard porcelain
inglaze temperature around 1100 °C**



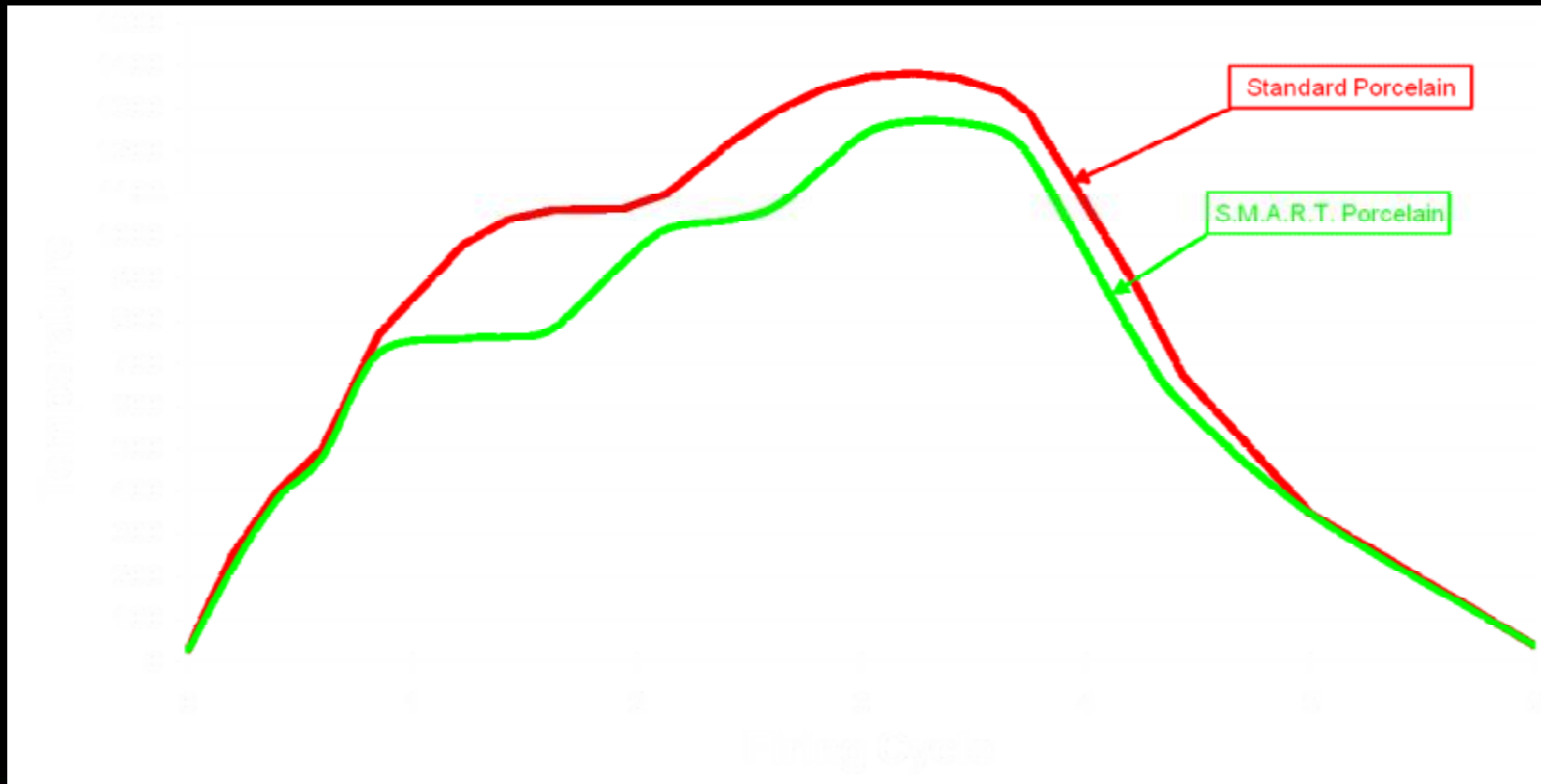
Technology and Properties

Body and glaze composition adapted to lower firing temperature, less Kaolin, more feldspar and Quartz
The properties are in the same range like „standard“ Porcelain

Facts



Technology – Comparison of Firing Curves



Investment Cost

Lower investment for kiln because of different lining due to lower application temperature

Lower investment for kiln furniture because of different material, Cordierite instead of SiC

In case of Once Firing only one kiln plant

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INVESTMENT COST

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Facts: Investment Cost

Pos	Conventional Porcelain	S.M.A.R.T. Porcelain
Temperature Process	1400 °C double firing	1250 °C once firing
Body preparation	100	100
Shaping	100	100
Biscuit firing	100	0
Glazing	100	100
Glost firing	100	90
Foot grinding	100	100
Kiln furniture	100	75



Running Cost

Body: - slightly higher cost for body

Shaping: - same cost

Glazing: - same cost

Kiln:

- approx. 15 % lower gas consumption in case of double firing
- approx. 30 % lower gas consumption in case of once firing
- lower gas consumption in decoration kiln
- less cost for kiln furniture

Facts: Running Cost

Pos	Conventional Porcelain	S.M.A.R.T. Porcelain
Temperature Process	1400 °C double firing	1250 °C once firing
Body	100	110
Shaping	100	100
Biscuit firing	100	0
Glazing	100	106
Glost firing	100	80
Foot grinding	100	100
Kiln furniture	100	75
Man power	100	90



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Summary Savings



Pos	Conventional Porcelain	S.M.A.R.T. Porcelain
Temperature Process	1400 °C double firing	1250 °C once firing
Investment Cost	100	85
Running Cost	100	71



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Facts: Properties



		Conventional Porcelain	S.M.A.R.T. Porcelain
Temperature Process		1400 °C double firing	1250 °C Double firing
3P bending strength	MPa	4,5	4,5
Deformation	mm	37	35
Shrinkage	%	11,0	11,0
3P fired bending strength	MPa	78	76
Edge chipping resistance	Nm	0,22	0,21
Scratch resistance	Mohs	6 yes, 5 no	6 yes, 5 no
Glaze hardness	HV	703	689
Water adsorption	%	0,05	0,09
Brightness		71	70
Lightness		87,8	86,9

