



SAINT-GOBAIN PERFORMANCE CERAMICS & REFRACTORIES

ADVANCAL[®]

NEW MATERIAL FOR REDUCTION CELLS



SCAN ME

TO DOWNLOAD



ADVANCAL® BLOCKS

HIGH PERFORMANCE REFRACTORIES FOR ALUMINUM MELTING AND HOLDING FURNACES



Innovative refractory technologies have set a new performance standard for reduction cell sidewall blocks.

With their outstanding corrosion resistance, new Advancal® blocks last longer than conventional blocks.

As a result, substantial savings are made on replacements and cell disruption is minimized - significant benefits for any aluminium plant operator.

Approved by leading technology suppliers Advancal® keeps on delivering long after other blocks have been taken out.



For more information

FEATURES & BENEFITS

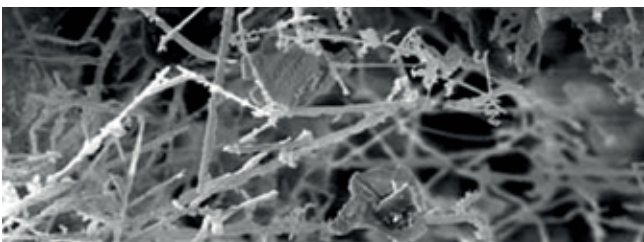
- ✓ High oxidation resistance
- ↑_{40%} up to 40% better corrosion resistance
- ✂ Outstanding chemical resistance

- ☆ Extended service life
- ⌚💰 Thinner sidewalls to maximize the heat flow

ADVANCAL® - NEW MICROSTRUCTURE

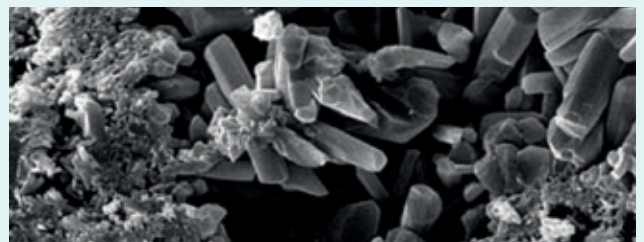
TYPICAL NITRIDE BONDED SIC

- Predominant α Si_3N_4
- Unstable bonding system
- Susceptible to oxidation in medium temperatures
- No protection once oxidized



ADVANCAL®

- Predominant β Si_3N_4
- Stable bonding phase system
- Resistance to oxidation in any temperature range
- „SELF“ protection system against oxidation



CASE STUDY

CORROSION RESISTANCE

Comparison of corrosion resistance after oxidation
(500 hrs - 900°C)

RESULT

Superficial contamination with no penetration to the body.

ADVANCAL®



Regular SiC-Si₃N₄



OXIDATION RESISTANCE

Comparison of oxidation behavior
(500 hrs - 900°C)

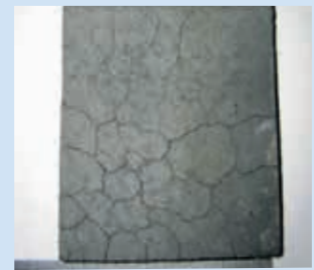
RESULT

No cracks.

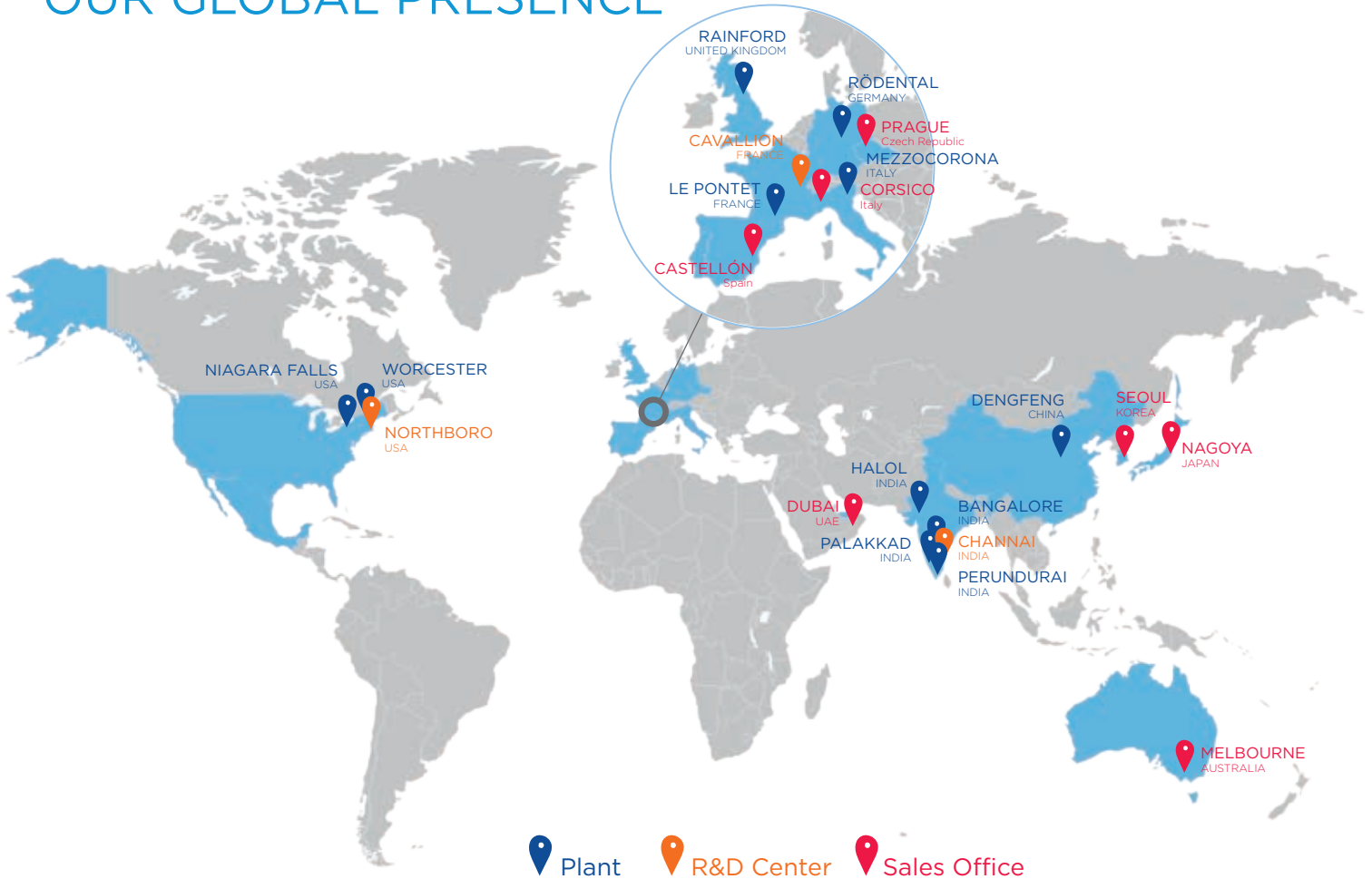
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Regular SiC-Si₃N₄



OUR GLOBAL PRESENCE



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