Strutture refrattarie per forni e carri

Refractory structures for kilns and kiln cars

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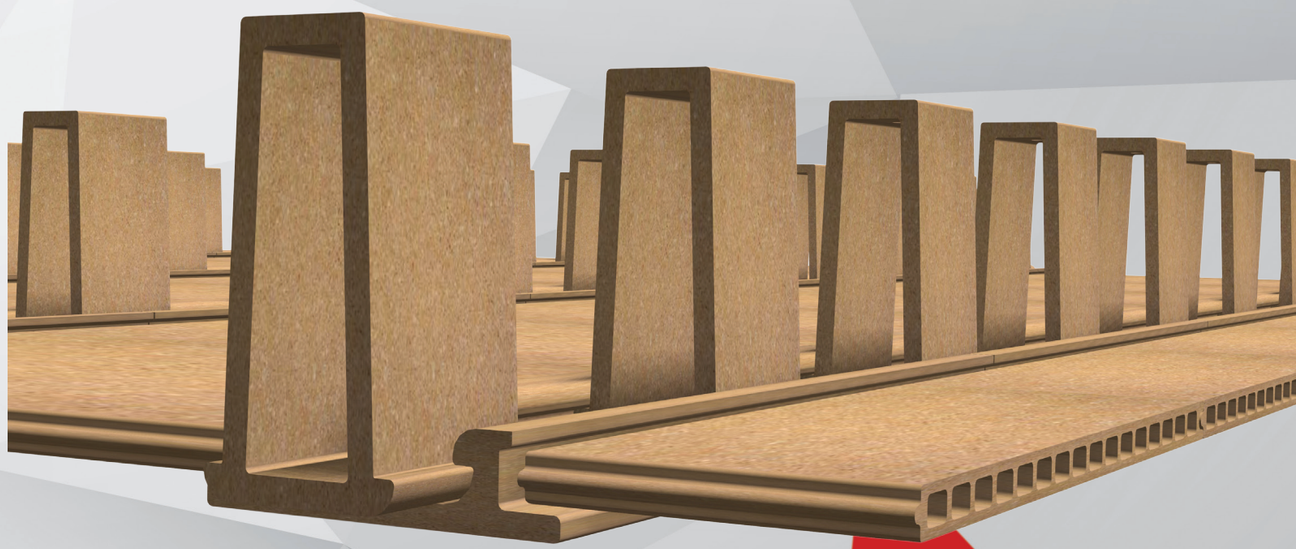
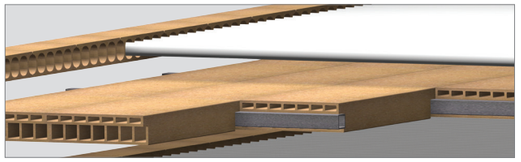


Pezzi speciali/*Special pieces*

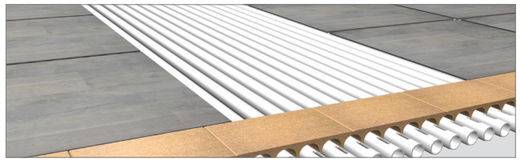
ICRA studia e progetta, in collaborazione con i suoi clienti, accessori e pezzi speciali per forni, carri e per impieghi particolari.
ICRA develops and designs, in collaboration with its customers, special accessories and pieces for kilns, kiln cars and particular uses.

Dotazioni per forni/*Kiln equipment*

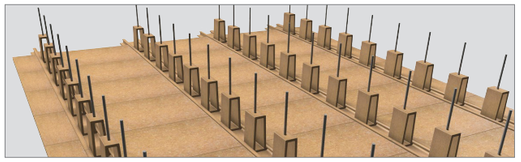
- Piastre divisorie per forni a rulli pluricanale, maschiate e con alloggiamento barre
  Dividing slabs for multi-channel roller kilns, tapped and with beam housing



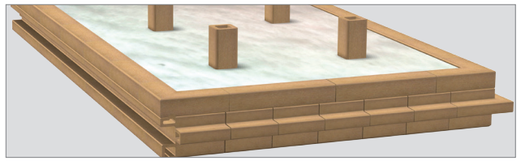
- Passarulli estrusi in materiale denso, di passi e lunghezze diverse e di spessori sottili
  Roller blocks extruded in dense material, with various pitches and lengths and low thicknesses



- Volte sospese e rivestimenti forni
  Suspended roof systems and kiln linings



- Sagomati vari
  Various profiles

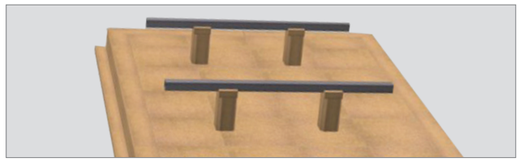


Inoltre produciamo/*We also produce:*
- Rulli e piastre porta-resistenze
  Heating element holders

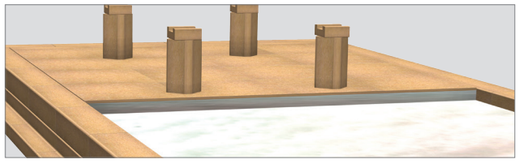
Dotazioni carri/*Kiln car equipment*

- Connettori
  Splicers

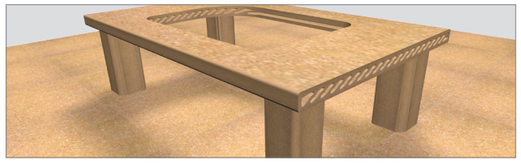
- Supporti per barre
  Supports for beams



- Piastre copri – fibra
  Fibre protecting slabs



- Particolari per cottura sanitari
  Parts for firing sanitary ware



Inoltre produciamo/*We also produce:*
- Colonne di sezione quadrata, rettangolare, tonda ed esagonale alleggeriti e di lunghezze fino a 1900 mm
  Columns with square, rectangular, circular and hexagonal cross-section, lightened and with lengths of up to 1900 mm

Caratteristiche tecniche/*Technical characteristics*

		CONCEPT C	CONCEPT C2	CONCEPT C3
Analisi chimica (%) *Chemical analysis*	Al_2O_3	34 - 36	35 - 37	36 - 38
	SiO_2	53 - 55	52 - 55	50 - 52
	MgO	6 - 7	7 - 8	7.5 - 8.5
	Fe_2O_3 + TiO_2	<3.5	<3.5	<3
	CaO + K_2O + Na_2O	<2	<1.5	<2
Analisi cristallografica *Crystalloghraphic analysis*		*Cordierite Mullite*	*Cordierite Mullite*	*Cordierite Mullite*
Coefficiente di dilatazione termica (K^{-1} x 10^{-6}) *Thermal expansion (K^{-1} x 10^{-6})*	(20 – 1000 °C)	2.4 - 2.8	2.5 - 2.9	2.3 - 2.7
Modulo di rottura (N/mm^2) *Module of rupture (N/mm^2)*	20 °C	17 - 20	20 - 23	11 - 14
	1250 °C	17 - 20	20 - 23	11 - 14
Peso/Volume (g/cm^3) *Weight/Volume Ratio (g/cm^3)*		2.05 - 2.10	2.05 - 2.10	1.93 - 1.99
Porosità apparente (%) *Apparent porosity (%)*		17 - 19	17 - 20	22 - 25
Acqua assorbita (%) *Absorbed water (%)*		8 - 9	9 - 10	11 - 13
Modulo elastico (kN/mm^2) *Coefficient of elasticity (kN/mm^2)*	20 °C	25	29	20
	1250 °C	23	27	19
Resistenza alla flessione a caldo *Creep*		***	****	*****
Resistenza agli sbalzi termici *Thermal shock resistance*		****	****	*****
Calore specifico (kJ kg^{-1} K^{-1}) *Specific heat (kJ kg^{-1} K^{-1})*	20°C	1	1	1
Conducibilità termica (W m^{-1} K^{-1}) *Thermal conductivity (W m^{-1} K^{-1})*	20°C	1 - 1.5	1 - 1.5	1 - 1.5
Massima temperatura d'esercizio (°C) *Maximum operating temperature (°C)*		1280	1300	1320

I valori sono indicativi, non formano oggetto di garanzia e non sono comunque vincolanti
The technical data shown are indicative and they are not binding

ICRACONCEPT®

Il marchio esclusivo ICRACONCEPT® garantisce lo specifico tecnologico delle nostre piastre.
The exclusive ICRACONCEPT® brand is a guarantee of the technological specifications of our products.

- Alta resistenza allo shock termico.
  High resistance to thermal shock.
- Maggiore velocità di riscaldamento e di raffreddamento con conseguente risparmio energetico.
  Greater heating and cooling rates with resulting energy savings.
- Maggiore omogeneità di temperatura nella piastra.
  Greater homogeneity of temperature in the slab.
- Prestazione ottimale nella cottura ad alta temperatura.
  Excellent performance during firing at high temperature.
- Minore Δ termico tra supporto e pezzo in cottura.
  Less thermal Δ between the support and piece being fired.
- Precisione assoluta.
  Absolute precision.