



Product Brochures

Grouting products for Blast Furnaces

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SACAS
ISO 9001:2015

SACAS
ISO 14001:2015

SACAS
OHSAS 18001:2007

Grouting products

Introduction to Delta Refractories (Pty) Ltd.

Background

- We produce acid and basic monolithic refractories
- We design and develop our own mixes in accordance with client needs
- We represent a number of overseas and local suppliers
- We are certified by SACAS in ISO 9001:2015, ISO 14001:2015 and OSHAS 18001:2007
- Production facility situated in Vereeniging, 60 km south of Johannesburg
- Capacity: ~1600 ton per month single shift
- Employees: ~30 permanent staff
- Clients:
 - Iron and Steel: ArcelorMittal Group, Scaw, others
 - Ferro Alloy: Billiton Group, Glencore, others
 - Glass: Nampak, Consol, Isover Saint Gobain
 - Others: Foundries, aluminium, paper, power stations, cement.

Products and services

- Ramming, gunning, plaster, pumpable, and others.
- Dense and light weight castables (acid and basic)
- Special monolithics for continuous casting
- Special monolithic refractory materials on request
- Imported products:
 - Fusion cast refractories from **Motim**
 - Magnesia chrome, SiC, magnesia carbon, magnesia alumina carbon and others from **Wonjin**, Korea and China
- Installation services and supervision over product application are available
- Consultancy services with regards to process development in pyro-metallurgical industries

Product ranges:

Product Range	Description
Delta Cast®	LCC, ULCC and NCC range 1300 to 2000 °C
Delta Crete®	Conventional castable range 900 to 2000 °C
Delta Gun®	Acid and basic gunning, hot/cold, 1200 to 2000 °C
Delta Ram®	Acid and basic ramming for ladles and furnaces
Delta Plast®	Acid and basic plaster materials 1300 to 1800 °C
Delta Flow®	Free flow acid range 1300 to 2000 °C
Delta Floc®	Slag coagulant range
Delta Cover®	Ladle and tundish insulating cover materials
Delta Thermo Cover®	Range of refractory paints for protection of carbon containing refractories
Delta Chem®	A cement free chemically bonded range 1300 to 2000 °C
Delta Pump®	Range of pumpable materials 1300 to 2000 °C
Delta Set®	Acid and basic mortar ranges 1300 to 2000 °C
Delta Fill®	Ladle well filler and furnace taphole fillers
Delta Melt®	Slag viscosity modifiers

Grouting/Injection/Pump materials for Blast Furnaces.

Notice

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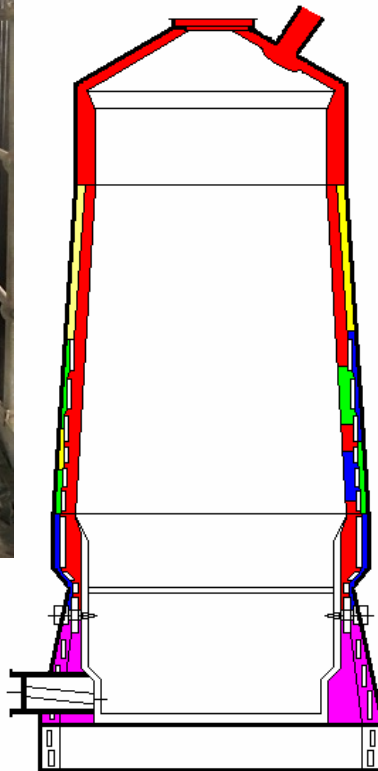
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Grouting products



Application	Max temp	Max grain size	Al ₂ O ₃	SiO ₂	CaO + MgO	ZrO ₂	SiC	C	BD	TC	Remarks	Raw Material
Unit	°C	mm	%	%	%	%	%	%	g/cm ³	W/mK		
Insulation												
Delta Pump® 900 Cold application; Air-set	1100	1	6	70	21				1.8	1.5	HAC	Silica
Delta Pump® 850 Cold application; Air-set	1150	0.2	32	38	22				1.15	0.4	HAC	Chamotte
Delta Pump® 400 Cold application; Air-set; fine	1600	1	55	40	4				1.8	0.8	LCC	Andalusite
Delta Pump® 304 Hot application; Heat-set	1700	0.2	54	43	0.3				2.1	0.85	Col. silica	Andalusite
Delta Pump® 306 Cold application; Air-set; fine	1700	1	76	15	8				2.2	0.8	HAC	Bauxite
Delta Pump® 307 Ready mixed; Hot application; Heat-set	1700	0.15	73	21	1				1.1	0.7	CB	Alumina
Refractory to conductive												
Delta Pump® 403 Cold application; Air-set; Coarse	1600	6	63	34	1.8				2.6	1.6	LCC	Andalusite
Delta Pump® 401 Staves; dry; Hot application; Heat-set	1600	0.2	79	1	0.4		15		2.6	3.5	CB	Alumina
Delta Pump® 402 Ready mixed; Hot application; Heat-set	1600	0.2	79	1	0.4		15		2.6	3.5	CB	Alumina
Delta Pump® 300 Cold application; Air-set; Coarse	1700	4	50	31	5	13			2.5	1.3	LCC	Andalusite
Delta Pump® 303 Staves; Hot application; Heat/Air-set	1700	0.2	12	7	0.3		80		2.2	14	CB	SiC
Delta Pump® 305 Staves; Hot application; Heat/Air-set	1700	0.2	12	14	0.3		73		2.2	14	Col. silica	SiC
Delta Pump® 301 Stack; Hot application; Heat-set	1700	0.1	68	30	0.3				2.3	1.4	Col. silica	Andalusite
Delta Pump® 302 Bosch; Cold application; Heat-set	1700	0.1	53	30	0.3		14		2.3	3.5	Col. silica	Andalusite
Delta Pump® 250 Bosch; Heat-set; Hot application	1750	0.1	77	8	0.4		14		2.3	3.5	Col. silica	Bauxite
Delta Pump® 251 Bosch; Air/heat-set; Hot application	1750	0.1	77	8	0.4		14		2.3	3.5	Col. silica	Bauxite
Abrasive and conductive												
Delta Pump® 201 Staves; Hot application; Heat-set; fine	1800	0.1	59	1	0.5		30		2.6	12	CB	Alumina
Delta Pump® 200 Staves; Hot application; Heat-set; coarse	1800	1.5	59	<1	0.5		30		2.5	12	CB	Alumina

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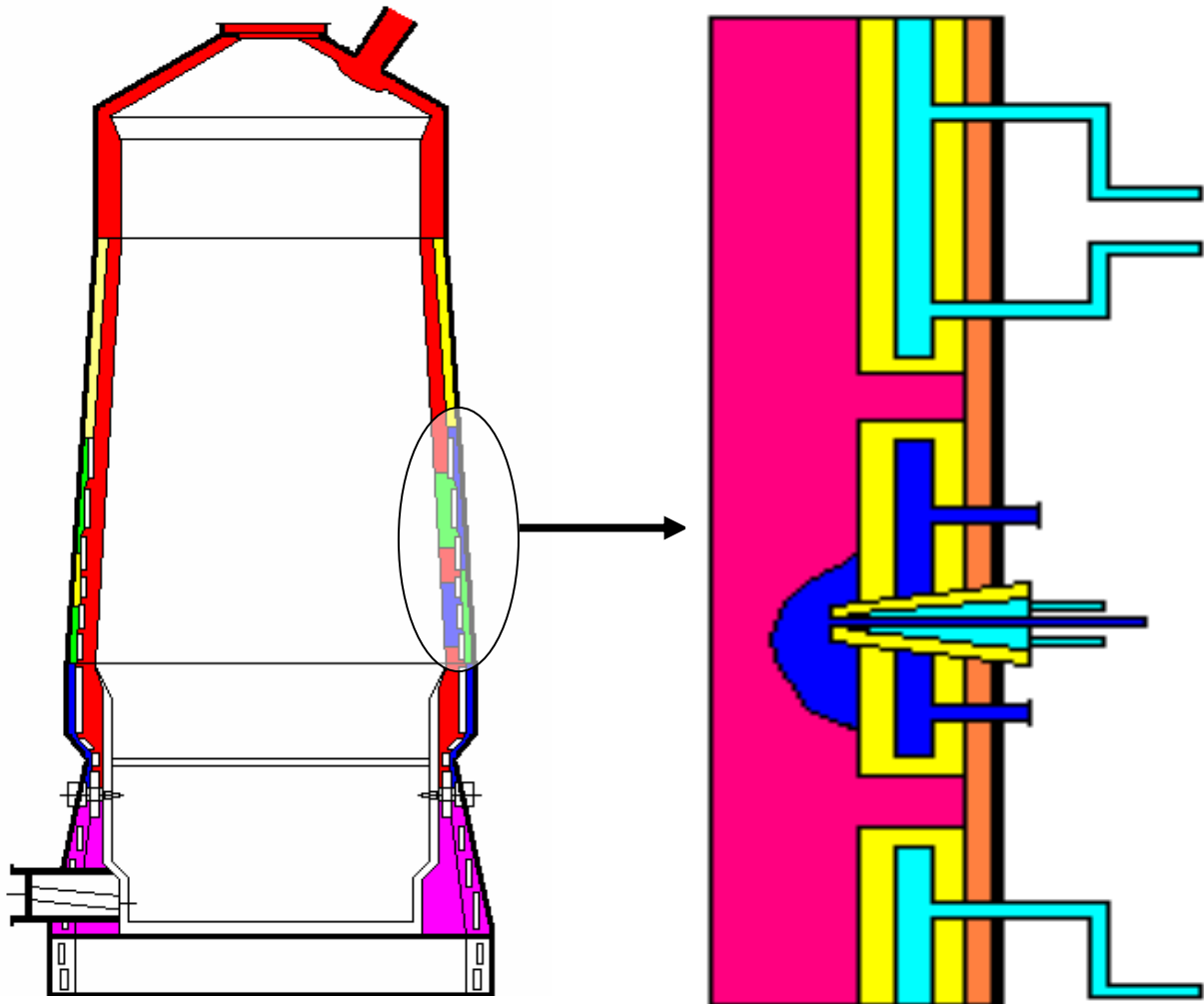
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Grouting products

Grouting of cigar coolers and staves.



Application	Max temp	Max grain size	Al ₂ O ₃	SiO ₂	CaO + MgO	SiC	BD	TC	Remarks	Raw Material
Unit	°C	mm	%	%	%	%	g/cm ³	W/mK		
Insulation										
Delta Pump® 900 Cold application; Air-set	1100	1	6	70	21		1.8	1.5	HAC	Silica
Delta Pump® 850 Cold application; Air-set	1150	0.2	32	38	22		1.15	0.4	HAC	Chamotte
Delta Pump® 400 Cold application; Air-set; fine	1600	1	55	40	4		1.8	0.8	LCC	Andalusite
Delta Pump® 304 Hot application; Heat-set	1700	0.2	54	43	0.3		2.1	0.85	Col. silica	Andalusite
Delta Pump® 306 Cold application; Air-set; fine	1700	1	76	15	8		2.2	0.8	HAC	Bauxite
Delta Pump® 307 Ready mixed; Hot application; Heat-set	1700	0.15	73	21	1		1.1	0.7	CB	Alumina
Staves and cigar coolers										
Delta Pump® 200 Ready mixed ; Hot application; Heat-set; coarse	1800	1.5	59	<1	0.5	30	2.5	12	CB	Alumina
Delta Pump® 201 Ready mixed ; Hot application; Heat-set; fine	1800	0.1	59	1	0.5	30	2.6	12	CB	Alumina
Delta Pump® 250 Dry; Heat-set; Hot application	1750	0.1	77	8	0.4	14	2.3	3.5	Col. silica	Bauxite
Delta Pump® 251 Dry; Air/heat-set; Hot application	1750	0.1	77	8	0.4	14	2.3	3.5	Col. silica	Bauxite
Delta Pump® 303 Ready mixed; Hot application; Heat/Air-set	1700	0.2	12	7	0.3	80	2.2	14	CB	SiC
Delta Pump® 305 Hot application; Heat/Air-set	1700	0.2	12	14	0.3	73	2.2	14	Col. silica	SiC
Delta Pump® 401 Dry; Hot application; Heat-set	1600	0.2	79	1	0.4	15	2.6	3.5	CB	Alumina
Delta Pump 402 Ready mixed; Hot application; Heat-set	1600	0.2	79	1	0.4	15	2.6	3.5	CB	Alumina

Notes

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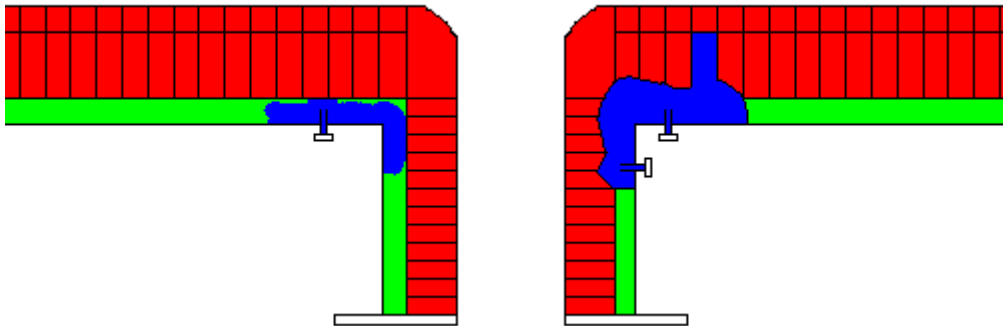
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Grouting of bustle main.



Application	Max temp	Max grain size	Al ₂ O ₃	SiO ₂	CaO + MgO	SiC	BD	TC	Remarks	Raw Material
Unit	°C	mm	%	%	%	%	g/cm ³	W/mK		
Insulation										
Delta Pump® 900 Cold application; Air-set	1100	1	6	70	21		1.8	1.5	HAC	Silica
Delta Pump® 850 Cold application; Air-set	1150	0.2	32	38	22		1.15	0.4	HAC	Chamotte
Delta Pump® 400 Cold application; Air-set; fine	1600	1	55	40	4		1.8	0.8	LCC	Andalusite
Delta Pump® 304 Hot application; Heat-set	1700	0.2	54	43	0.3		2.1	0.85	Col. silica	Andalusite
Delta Pump® 306 Cold application; Air-set; fine	1700	1	76	15	8		2.2	0.8	HAC	Bauxite
Delta Pump® 307 Ready mixed; Hot application; Heat-set	1700	0.15	73	21	1		1.1	0.7	CB	Alumina

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