



TOP CHARGING FURNACE

1 Hearth, ramp and sill

- AC 85 AP HAZAL B 85 P3/P4 (AL) or AC 80 P: P-bond brick solution for harsh environment with superheating
- ALKON® CAST BL 80 B3: for maximum abrasion resistance, better solution as precast blocks
- ALKON® CAST HYMOR 80 AL: for extra resistance to dross & corrosion

Balance between abrasion resistance, corrosion resistance to be found. Can be supplied in large precast shapes and installed with rammed expansion joints.

2 Lower walls, Belly band and spouts

- ALKON® CAST HYMOR 80 AL: reference solution
- ALKON® CAST LB 85 ALKON® SOL CAST HT: in less strong environment, can be supplied in large precast shapes
- AC 85 AP HAZAL B 85 P3/P4 (AL) or AC 80 P: P-bond brick solution for harsh environment with superheating

3 Burner quarl

- CALDE® PLAST P 85 or CALDE® RAM PB 84 or ALKON® GUN P: P-bond plastic material references
- CALDE® CAST UC 86 & ALKON® CAST HYMOR 80 AL: casting solutions

To check how much the quarl is subject to aluminium projections and flame rebounds if casting is required.

4 Upper Wall

- ALKON® GUN P: solutions for walls subject to aluminium splashes and corundum growth like burner walls
- CALDE® CAST LX 58 and CALDE® CAST AF 470: casting solution

5 Roof

- AC 60 A brick: arch reference solution
- CALDE® CAST LX 58: castable solution
- CALDE® CAST LX 58 or CALDE® CAST UB large precast shapes: arch solution

Best anchoring and insulating solution is to be found based on design of the steel structure if any.

6 Lintel, door pillar

- CALDE® CAST LX 58 with steel fibres: reference solution
- CALDE® CAST LX 68 or CALDE® CAST GIBRAM: upgrade solution
- CALDE® WIRE MIX: in precast shapes for great durability against mechanical abuse and thermal shocks, replacing metal protective plates (If temperature is not too high)

7 Top ring

- CALDE® CAST LX 68 or CALDE® CAST GIBRAM with steel fibres: reference solution
- CALDE® CAST LX 58

8 Upper wall backlayer & anchoring

- CALDE® CAST XL 116 C/G or CALDE® GUN XL 126 on top of insulating board: reference solution. Versatile and extra insulating

Metallic or ceramic anchors.

9 Hearth/Bath backlayer

- ALKON® CAST F 35 C/G: reference solution
- ALKON® CAST MF 44: for less insulation and better freeze point positioning

A compromise is to be found between low shell temperature (thermal efficiency), alloy freeze point position (safety) and furnace capacity (total thickness).

10 Door & Exhaust

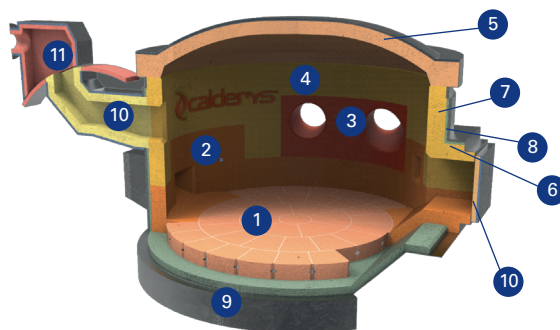
- CALDE® CAST M 28 D HR: reference solution
- CALDE® CAST MW 130 M: for lighter solution

Extra insulation can be brought via insulating fibre choice.

11 Exhaust hood and chimney

- CALDE® CAST XL 116 C/G: reference solution

Extra insulation can be brought via insulating fibre choice.



Cold Repairs

- CALDE® SOL CAST B 85: fast repair reference solution in sill, ramps and hearth
- ALKON® CHEM PB 85: fast repair reference in belly-band for extra resistance to dross & corrosion
- ALKON® GUN P: fast repair solutions in all walls and roof

Specific patch or plastic solutions for small/finer repairs are also available.

Hot Repairs

- ALKON® GUN C 75: emergency hot repair solution in bath and upper areas



REFRACTORY SPECIFICATIONS

Selection of products shall be done in accordance with furnace process conditions. Calderys invites you to fill in a dedicated questionnaire to confirm product selection regarding temperature level, cycling, alloys, salt/flux usage, and charging/skimming practices.

Selection of product/design shall be done in accordance with shut-down duration requirements; solutions can differ based on the importance of speed. Tailor-made solutions such as pumping/gunning, easy dry-out materials, up to full precast can be supplied to lower cost of ownership when production loss per day is of high value.

The performance of the final solution is sensitive to the installation quality, from the equipment performance to the manpower skills/ respect of refractory placement procedures. Calderys invites customers to engage its supervision of the installation work, up to full turnkey solutions to control the overall quality of the project: shutdown schedule, installation, dry-out and furnace commissioning.

Please ensure any product selection and/or design is validated by your Calderys sales representative.

Product name	Main component	Binding System	Max. Recomm. temp.(°C)	Density (g/cm³)	Ease of Dry Out	Chemical analysis (avg %)			
						Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	SiC
AC 60 A	Andalusite	Ceramic	1550	2.57		61.8		1.2	
AC 80 P	Bauxite	Chemical/ Ceramic	1550	2.80		78.0		1.6	
AC 85 AP HAZAL B 85 P3/P4 (AL)	Bauxite	Chemical/ Ceramic	1500	2.90		85.2		1.4	
ALKON® CAST BL 80 B3	Bauxite	Hydraulic	1400	3.08	(-)	83.0	7.7	0.8	
ALKON® CAST F 35 C/G	Chamotte	Hydraulic	1280	2.00		36.0	49	3.0	
ALKON® CAST HYMOR 80 AL	Corundum	Hydraulic	1420	3.13		84.0	3.1	0.1	
ALKON® CAST LB 85 ALKON® SOL CAST HT	Bauxite	Hydraulic	1300	2.90		84.0	8	0.7	
ALKON® CAST MF 44	Chamotte	Hydraulic	1200	2.16		43.0	49	1.2	
ALKON® CHEM PB 85	Bauxite	Chemical Inorganic	1400	2.93	(+)	85.0	2.4	0.8	
ALKON® GUN C 75	Corundum	Hydraulic	1420	2.73	(++)	78.5	1.8	0.2	
ALKON® GUN P	Bauxite	Chemical Inorganic	1600	2.63	(+)	83.0	8.2	0.9	
ALKON® SOL CAST B 85	Bauxite	Mineral Reaction	1200	2.95	(++)	85.0	8.4	0.5	2.8
CALDE® CAST AF 470	Andalusite, Bauxite	Hydraulic	1650	2.60		70.0	24	1.2	
CALDE® CAST GIBRAM	Bauxite	Hydraulic	1600	2.95		85.0	10	1.0	
CALDE® CAST LX 58	Andalusite	Hydraulic	1650	2.50		57.0	38	1.1	
CALDE® CAST LX 68	Corundum	Hydraulic	1600	2.85		80.0	15	0.6	
CALDE® CAST M 28 D HR	Chamotte	Hydraulic	1550	2.25		45.5	47.8	1.3	
CALDE® CAST MW 130 M	Lightweight chamotte	Hydraulic	1300	1.55		37.5	42.5	6.0	
CALDE® CAST UB	Bauxite	Hydraulic	1680	2.85		85.0	11.5	0.9	
CALDE® CAST UC 86	Corundum	Hydraulic	1750	2.89		85.0	14	0.4	
CALDE® CAST XL 116 C/G	Lightweight chamotte, Vermiculite	Hydraulic	1160	0.84		28.5	30	10.3	
CALDE® GUN XL 126	Lightweight aggregates	Hydraulic	1260	0.95		31.0	38	9.3	
CALDE® PLAST P 85	Bauxite	Chemical Inorganic	1650	2.80	(+)	84.0	8	0.9	
CALDE® RAM PB 84	Bauxite	Chemical	1650	2.90	(+)	84.0	10	1.0	

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