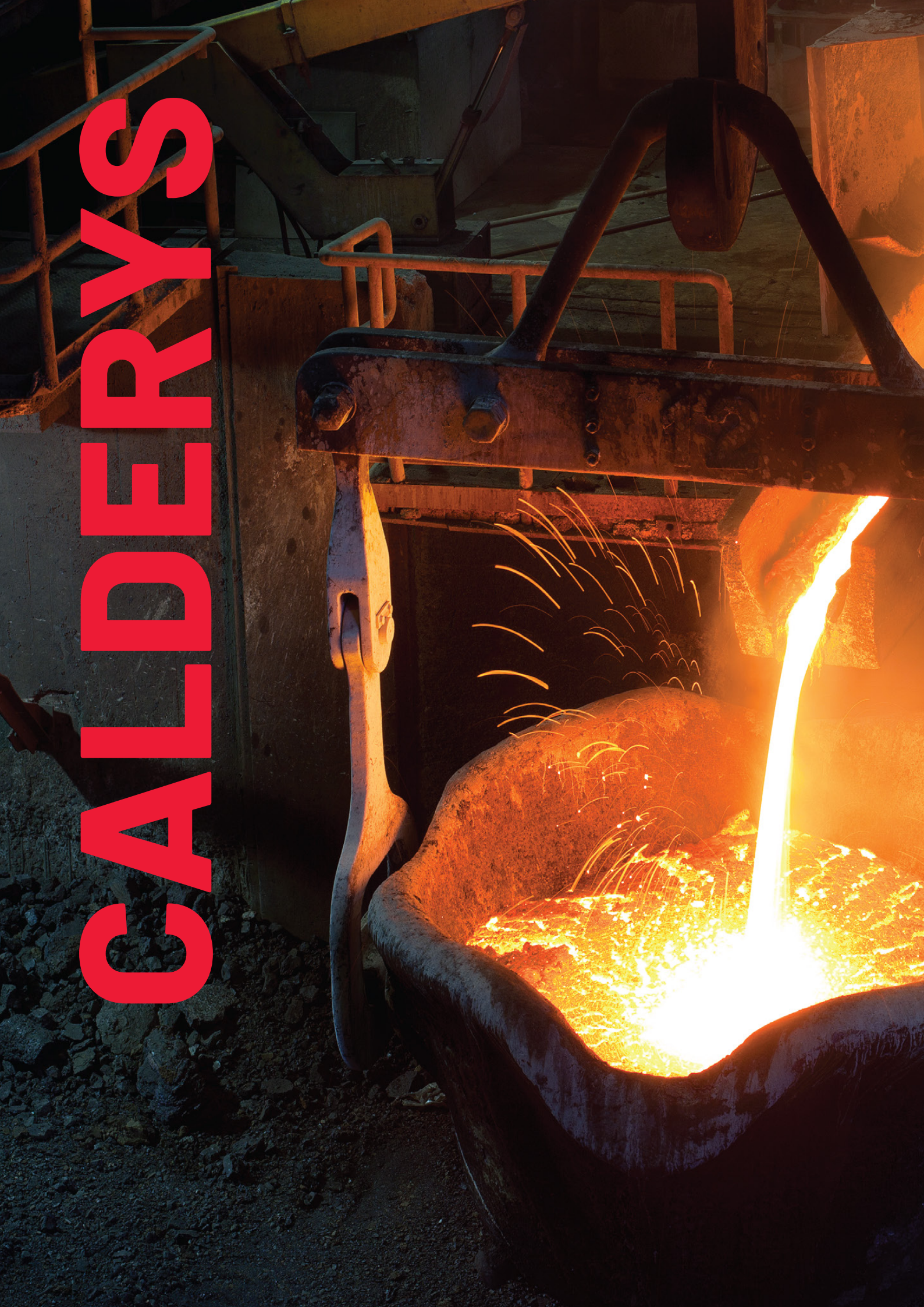




# IRON & STEEL



# CALDERYS







Calderys is a leading global provider for industries operating in high temperature conditions. We specialize in thermal protection for industrial equipment with a wide range of refractory products, and advanced solutions to enhance steel casting, metallurgical fluxes and molding processes.

With a presence in more than 30 countries on the 5 continents and a strong footprint in the Americas through the brand HWI (HarbisonWalker International), Calderys' international network of experts ensures an end-to-end offer with tailored services.

Drawing on over 150 years of experience, we are constantly developing innovative products and techniques, optimizing costs and performance, combining world-class Research & Development and technical experts, as well as responsive supply chain and sales departments.

Our global structure allows us to design the customized solutions of today while anticipating the industries' needs of tomorrow.

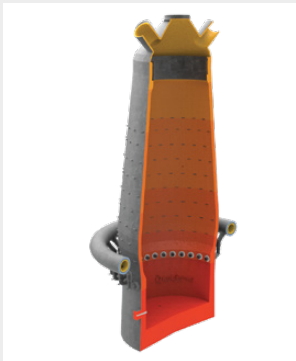
Calderys pays particular attention to industry's impact on the environment and has a sustainability program articulated around three pillars: supporting our customers in their energy transition needs, improving our environmental footprint and being committed to people and local communities.

Health and safety are an integral part of how we do business, and our activities require the highest level of professionalism to carry out our projects. The same attention to detail that helps us provide personalized products and solutions is also applied to our rigorous health and safety criteria — applicable to both our own employees as well as subcontractors and temporary workers.

| Product name               | Main component    | Chemical composition           |                  | Maximum operating temperature (°C) | Construction requirements (t/m³) | Standard water addition volume(%) | Bulk density after drying at 110°C | Application areas / Features   |
|----------------------------|-------------------|--------------------------------|------------------|------------------------------------|----------------------------------|-----------------------------------|------------------------------------|--|
|                            |                   | Al <sub>2</sub> O <sub>3</sub> | SiO <sub>2</sub> |                                    |                                  |                                   |                                    |  |
| Castable                   |                   |                                |                  |                                    |                                  |                                   |                                    |  |
| ALKON® CAST LB 85          | Bauxite           | 81.7                           | 8.3              | 1300                               | 2.9                              | 5.0 -6.0                          | 2.9 (g/cm3)                        | General-purpose castable   |
| CALDE® AL CAST LB 85 IP    | Bauxite           | 82.0                           | 10.0             | 1500                               | 2.7                              | 4.8 -5.4                          | 2.73 (g/cm3)                       | for aluminum contact   |
| CALDE® CAST 1560           | Andalusite        | 59.0                           | 36.0             | 1650                               | 2.5                              | 6.4 -7.6                          | 2.45 (g/cm3)                       | General-purpose castable   |
| CALDE® CAST LB 78          | Bauxite           | 77.0                           | 14.0             | 1600                               | 2.6                              | 4.8 -5.5                          | 2.60 (g/cm3)                       | High Abrasion resistance   |
| CALDE® CAST LB 85          | Bauxite           | 83.0                           | 10.0             | 1650                               | 2.7                              | 4.6 - 5.15                        | 2.75 (g/cm3)                       | High Abrasion resistance   |
| CALDE® CAST LR 68 IP       |                   | 68.0                           | 22.0             | 1600                               | 2.3                              | 7.8 - 8.7                         | 2.30 (g/cm3)                       | General-purpose castable   |
| Castable C-16 BRS          | Bauxite           | 67.0                           | 24.0             | 1650                               | 2.5                              | 6.2 - 6.8                         | 2.55 (g/cm3)                       | High temperature & thermal shock resistance  |
| Castable Guncast C-1600 EX | Corrundum         | 54.0                           | 38.0             | 1550                               | 2.1                              | added at the nozzle               | 2.14 (g/cm3)                       | General-purpose castable   |
| Castable RORAM-RB          | Bauxite/ Mullite  | 72.0                           | 21.0             | 1600                               | 2.5                              | 6.0 -7.0                          | 2.50 (g/cm3)                       | General-purpose castable   |
| GREENKLEEN® 60 PLUS IP     |                   | 59.0                           | 35.0             | 1649                               | 2.4                              | 5.3 - 6                           | 2.56 (g/cm3)                       | This material is very tough and can handle wear, sudden temperature changes, and contact with molten aluminum. It's used in many high-heat areas like aluminum furnaces (hearths, ramps, sidewalls, troughs, ladles, and crucibles), FCCU lines, incinerators, burner blocks, forge furnace supports, and cement coolers |
| MIZZOU® CASTABLE PLUS IP   |                   | 59.0                           | 35.0             | 1650                               | 2.3                              | 8.0 - 10.0                        | 2.29 (g/cm3)                       | This material resists many slags well. It expands instead of shrinking when heated and doesn't easily crack or peel. It's also easy to install, this is use in Incinerators, Boilers, Burner Blocks, Aluminum furnace upper sidewalls and roofs, Forge furnaces and foundry ladles                                       |
| ULTRA-GREEN® 57A IP        |                   | 60.0                           | 37.0             | 1650                               | 2.5                              | 4.8 - 5.6                         | 2.61 (g/cm3)                       | Outstanding thermal shock resistance in applications having extreme cyclic temperature conditions, High hot strength, Low porosity and high density superior or equal to fired brick of similar composition  |
| VERSAFLOW® 45 PLUS IP      |                   | 45.5                           | 48.0             | 1482                               | 2.1                              | 6.5 -7.5                          | 2.19 (g/cm3)                       | This material is strong and resists wear, so it lasts longer. It's easy to install by casting or pumping. It keeps its shape well, so it doesn't crack easily. It's used in many industries like steel, mineral processing, chemical, and aluminum for parts of furnaces and other high-heat areas.                      |
| Insulation                 |                   |                                |                  |                                    |                                  |                                   |                                    |  |
| CALDE® CAST LW 121 C/G     |                   | 40.0                           | 40.0             | 1200                               | 1.0                              | 46.5 - 51.5                       | 1.10 (g/cm3)                       | General-purpose castable   |
| CALDE® CAST LW 134 CO C/G  | Chamotte, Perlite | 44.0                           | 43.0             | 1350                               | 1.1                              | 40.0 - 46.0                       | 1.17 (g/cm3)                       | General-purpose castable   |
| GUNCAST IC-1300            | Chamotte          | 41.0                           | 37.0             | 1300                               | 1.3                              | added at the nozzle               | 1.44 (g/cm3)                       | Gunning, Casting   |

| Product name     | Main component | Chemical composition           |                  | Maximum operating temperature (°C) | Construction requirements (t/m³) | Standard water addition volume(%) | Bulk density after drying at 110°C | Application areas / Features  |
|------------------|----------------|--------------------------------|------------------|------------------------------------|----------------------------------|-----------------------------------|------------------------------------|---|
|                  |                | Al <sub>2</sub> O <sub>3</sub> | SiO <sub>2</sub> |                                    |                                  |                                   |                                    |   |
| LW -1300 PLUS IP |                | 8.0                            | 65.0             | 1315                               | 1.2                              | 30 - 40                           | 1.25 (g/cm3)                       | Economical low-density lining for petrochemical heaters, reactors, ducts, and flues. Suitable as both backup and hot face refractory. |

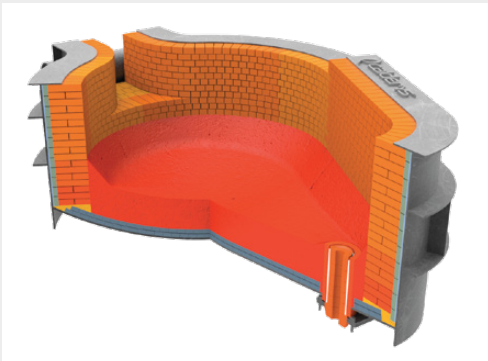
|             |          |      |      |   |   |             |   |                       |
|-------------|----------|------|------|---|---|-------------|---|-----------------------|
| Mortar      |          |      |      |   |   |             |   |                       |
| Mortar M-36 | Chamotte | 54.0 | 38.0 | - | - | 33.0 - 37.0 | - | Fire clay brick SK-36 |



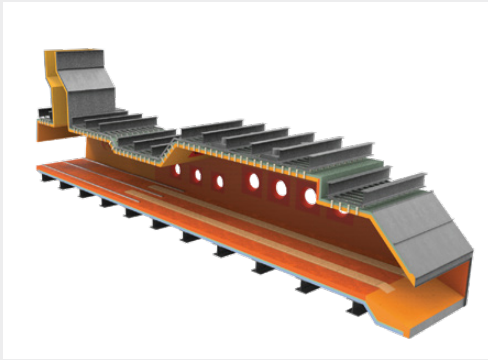
Blast furnace



Bogie furnace



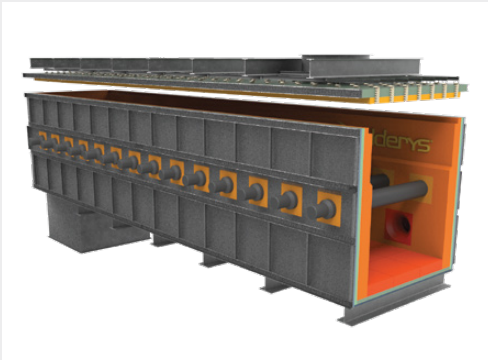
EAF



Pusher furnace



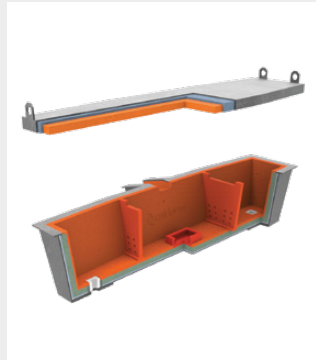
RH degasser



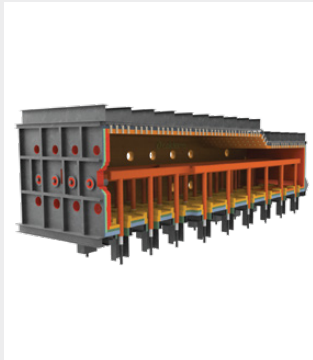
Roller furnace



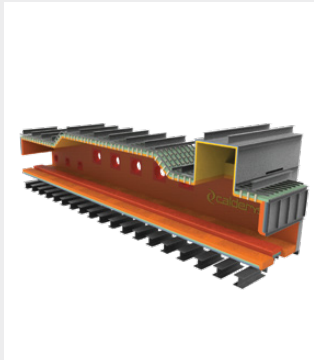
Steel ladle



Tundish



Walking beam furnace



Walking hearth furnace





[www.calderys.com](http://www.calderys.com)

