



RAJENDRA MECHANICAL PRIVATE LIMITED

Job Description: Ceramic Engineer

Company: Rajendra Mechanical Private Limited
Location: Jharsuguda, Odisha (working for Vedanta Aluminum Limited site)
Reports To: Project Manager / Operations Head (Rajendra Mechanical)
Employment Type: Full-time

About Rajendra Mechanical Private Limited: Rajendra Mechanical Private Limited is a leading service provider specializing in mechanical, refractory, and civil works for heavy industries. We are currently seeking a highly skilled and experienced Ceramic Engineer to support our operations at the Vedanta Aluminum Limited plant in Jharsuguda, Odisha.

About Vedanta Aluminum Limited, Jharsuguda: Vedanta Aluminum Limited is one of the world's largest producers of aluminum and alumina. Their Jharsuguda facility is a large-scale integrated aluminum complex, requiring specialized engineering expertise for its continuous and efficient operation, particularly concerning high-temperature processes and refractory linings.

Job Summary: The Ceramic Engineer will be responsible for the selection, installation, maintenance, and failure analysis of refractory materials and other ceramic components used in high-temperature processes within the Vedanta Aluminum Limited plant. This role requires a strong understanding of refractory design, material properties, installation techniques, and their application in the aluminum industry, particularly in areas like potlines, furnaces, kilns, and other high-temperature processing units.

Key Responsibilities:

- **Refractory Management:**
 - Oversee the selection, procurement, and quality control of refractory materials (e.g., fireclay bricks, high alumina bricks, insulating bricks, castables, ramming masses, ceramic fibers) for various applications within the aluminum plant (e.g., potlines, anode baking furnaces, holding furnaces, ladles, boilers).
 - Develop and implement refractory lining designs and installation procedures to optimize performance, extend lifespan, and ensure safety.
 - Supervise the installation, repair, and demolition of refractory linings, ensuring adherence to specifications, quality standards, and safety protocols.
 - Conduct regular inspections of refractory linings to assess their condition, identify potential issues, and plan for timely maintenance or replacement.
 - Analyze refractory failures to determine root causes and implement corrective and preventive actions.
 - Maintain detailed records of refractory installations, performance, and maintenance activities.
- **Process Optimization & Troubleshooting:**
 - Collaborate with the Vedanta Aluminum team to understand process requirements and identify opportunities for refractory material and design improvements.
 - Provide technical expertise and troubleshooting support for issues related to refractory performance, thermal efficiency, and material degradation.

- Participate in process audits and contribute to continuous improvement initiatives related to high-temperature operations.
- **Quality Control & Assurance:**
 - Ensure all refractory materials and installation procedures comply with relevant industry standards, codes, and client specifications.
 - Conduct material testing and analysis as required to verify quality and performance.
 - Implement and maintain quality assurance protocols for refractory works.
- **Safety & Compliance:**
 - Adhere to all company and client safety regulations, policies, and procedures.
 - Promote a strong safety culture among the work team.
 - Ensure all work is performed in an environmentally responsible manner.
- **Technical Support & Training:**
 - Provide technical guidance and training to site personnel on proper refractory handling, installation techniques, and maintenance.
 - Stay updated with the latest advancements in refractory materials, technologies, and best practices.
- **Documentation & Reporting:**
 - Prepare detailed reports on refractory performance, failure analysis, and project progress.
 - Maintain accurate documentation of material specifications, installation procedures, and inspection records.

Qualifications:

- **Education:** Bachelor's degree/Diploma in Ceramic Engineering, Materials Science and Engineering, or a closely related field from a recognized university. A Master's degree is a plus.
- **Experience:** Minimum of 0-5 years of progressive experience as a Ceramic Engineer, specifically with hands-on experience in refractory management and high-temperature industrial applications, preferably within the aluminum, steel, cement, or similar heavy industries. Experience with potline refractories is highly desirable.
- **Technical Skills:**
 - In-depth knowledge of various refractory materials, their properties, applications, and limitations.
 - Proficiency in refractory design principles, heat transfer, and thermal stress analysis.
 - Experience with different refractory installation methods (e.g., bricklaying, gunning, casting, ramming).
 - Familiarity with relevant Indian and international standards for refractory materials.
 - Ability to conduct root cause analysis for refractory failures.
 - Knowledge of furnace operations and high-temperature processing.
- **Soft Skills:**
 - Strong analytical and problem-solving skills.
 - Excellent communication (verbal and written) and interpersonal skills.
 - Ability to work independently and as part of a multidisciplinary team.
 - Strong project management and organizational skills.
 - Proactive, detail-oriented, and safety-conscious.
 - Ability to work effectively in a demanding industrial environment.

Working Conditions:

- This position will primarily be based at the Vedanta Aluminum Limited plant in Jharsuguda, Odisha, BALCO – Korba C.G.

- Work may involve exposure to industrial environments, including high temperatures, noise, and dust.
- Occasional travel may be required for vendor meetings, training, or other project-related activities.

Compensation Details:

BASIC	14612/-
HRA	2500/-
CANTEEN	1000/-
CONVEYANCE	500/-
Monthly Gross	18612/-
GHI	750/-
GPA	60/-
EPF	1900/-
ESIC	605/-
LEAVE	1551/-
BONUS	1218/-
Total Monthly CTC	24695/-



(Authorized Signatory)