

Recycled Refractories Market Forecasts to 2030 – Global Analysis By Form (Granules, Powder, Bricks & Blocks and Other Forms), Material, Process, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Recycled Refractories Market is accounted for \$13.72 billion in 2024 and is expected to reach \$22.53 billion by 2030 growing at a CAGR of 10.8% during the forecast period. Recycled refractories are used refractory materials that have been processed and repurposed for reuse in industrial applications. These materials originate from worn-out refractory linings in furnaces, kilns, and ladles, which are crushed, cleaned, and graded based on composition and quality. Recycling refractories helps reduce waste, lower raw material costs, and minimize environmental impact.

According to the Environmental Protection Agency (EPA), recycling and reuse of materials can significantly reduce greenhouse gas emissions, with a potential reduction of up to 2.5 billion metric tons of CO₂ equivalent per year if recycling rates increase globally.

Market Dynamics:

Driver:

Growing emphasis on circular economy & carbon footprint reduction

Governments and organizations are enforcing stricter environmental regulations, promoting the reuse of materials to minimize waste and carbon emissions. Recycling refractories reduces dependence on virgin raw materials, lowering energy consumption

and production costs. This shift toward resource efficiency and reduced environmental impact boosts demand for recycled refractories, fostering market growth and innovation in sustainable refractory processing technologies.

Restraint:

Inconsistent properties of recycled materials

Recycled refractories have inconsistent properties due to variations in raw materials, contamination, and wear from previous use. Different operating conditions, impurities, and chemical alterations affect the quality and performance of recycled materials. This inconsistency makes it difficult to maintain uniform strength, thermal resistance, and durability, limiting their suitability for high-performance applications. As a result, quality uncertainties hamper market growth by reducing demand and slowing widespread industrial acceptance.

Opportunity:

Steel & cement industry growth

Steel and cement industries rely heavily on high-temperature furnaces and kilns, which require refractory linings that wear out over time. Recycling these used refractories reduces raw material costs and aligns with sustainability goals. Additionally, rising infrastructure projects and industrialization boost refractory consumption, creating a steady supply of recyclable materials. With stringent environmental regulations initiatives gaining traction, steel and cement manufacturers increasingly adopt recycled refractories, propelling market expansion and fostering eco-friendly industrial practices worldwide.

Threat:

High processing costs

Recycled refractories have high processing costs due to labor-intensive sorting, cleaning, crushing, and grading processes required to ensure quality and consistency. Contaminants, wear-induced property variations, and the need for advanced technology to restore refractory performance further increase expenses. Additionally, limited recycling infrastructure and lack of standardized processing techniques create supply chain inefficiencies, further restricting market expansion despite growing demand for

sustainable refractory solutions.

Covid-19 Impact:

The covid-19 pandemic disrupted the recycled refractories market by causing supply chain interruptions, reduced industrial activity, and labor shortages. The slowdown in steel, cement, and glass industries led to lower demand for refractories. However, post-pandemic recovery and renewed emphasis on sustainability boosted interest in recycled materials. While short-term disruptions were significant, long-term market growth is expected due to increasing circular economy initiatives and stricter environmental regulations.

The furnaces & kilns segment is expected to be the largest during the forecast period

The furnaces & kilns segment is expected to account for the largest market share during the forecast period. Recycled refractories in furnaces and kilns are used to enhance cost efficiency and sustainability in high-temperature applications. These materials, derived from spent refractory linings, are processed and repurposed for use in insulation, linings, and structural components. Advancements in processing technology are improving recycled refractory properties, making them a viable alternative for extending furnace and kiln lifespan.

The glass manufacturing segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the glass manufacturing segment is predicted to witness the highest growth rate. Recycled refractories in glass manufacturing are used to reduce costs and environmental impact while maintaining high-temperature resistance. The glass industry benefits from reduced dependency on virgin refractory materials, aligning with sustainability initiatives. The glass industry benefits from reduced dependency on virgin refractory materials, aligning with sustainability initiatives.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share due to the region's strong industrial base, particularly in steel, cement, and glass production. China, India, and Japan are key contributors due to their large-scale manufacturing and stringent environmental regulations promoting sustainable practices. Government initiatives supporting waste reduction and circular economy practices are

boosting adoption, making Asia-Pacific a growing hub for recycled refractory materials in industrial applications.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, driven by growing sustainability initiatives, stringent environmental regulations, and cost-saving measures in industries like steel, cement, and glass. The U.S. and Canada lead the market with advanced recycling infrastructure and increasing adoption of circular economy practices. With technological advancements and regulatory support, the market is expected to grow, promoting sustainable refractory usage across industrial applications.

Key players in the market

Some of the key players in Recycled Refractories market include Saint-Gobain, Krosaki Harima Corporation, Deref S.p.A., Harsco Corporation, HORN & CO. GROUP, LKAB Minerals, Mineralen Kollee, REF Minerals, RHI Magnesita, Jai Balajee Trading Co., Refratechnik, Vesuvius, Imerys, HarbisonWalker International and Veolia.

Key Developments:

In January 2025, RHI Magnesita, in collaboration with MCI Carbon, the Austrian Institute of Technology, and the University of Technology Sydney, received €3.8 million in funding for the CCUpScale project. This initiative aims to develop carbon capture and utilization solutions within the refractory industry.

In October 2024, Saint-Gobain introduced RenuCore™, an innovative roofing solution that incorporates recycled materials, reducing waste and environmental impact. The introduction of this product aligns with the growing industry trend toward eco-friendly construction materials, reinforcing Saint-Gobain's leadership in sustainable building solutions and its dedication to reducing carbon footprints in the construction sector.

Forms Covered:

Granules

Powder

Bricks & Blocks

Other Forms

Materials Covered:

Fireclay

Magnesite

Alumina

Silicon Carbide

Zirconia

Other Materials

Processes Covered:

Crushing & Grinding

Sorting & Separation

Purification

Mixing & Reprocessing

Other Processes

Applications Covered:

Furnaces & Kilns

Ladle Linings

Tundish Linings

Boilers & Incinerators

Other Applications

End Users Covered:

Iron & Steel

Cement & Lime

Glass Manufacturing

Energy & Power

Ceramics & Chemicals

Other End Users

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and

strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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