

Global Selective Thermal Emitters Supply, Demand and Key Producers, 2026-2032

<https://marketpublishers.com/r/G03A302AFE39EN.html>

Date: January 2026

Pages: 127

Price: US\$ 4,480.00 (Single User License)

ID: G03A302AFE39EN

Abstracts

The global Selective Thermal Emitters market size is expected to reach \$ 1386 million by 2032, rising at a market growth of 13.9% CAGR during the forecast period (2026-2032).

In 2025, global Selective Thermal Emitters production reached approximately 37,000 tons against an installed capacity of about 43,000 tons, with average unit price USD 14,600, while leading suppliers maintained gross margins of around 42%. Selective Thermal Emitters are engineered materials or structured surfaces designed to emit thermal radiation strongly within specific, narrow wavelength bands while suppressing emission outside those bands, enabling precise control of heat-to-radiation conversion. They are typically used in applications such as thermophotovoltaics (TPV), infrared (IR) sensing and signaling, radiative cooling, thermal camouflage, and high-efficiency energy systems, where matching the emission spectrum to a detector or photovoltaic bandgap is critical. The supply chain begins upstream with advanced raw materials and substrates (refractory metals like tungsten or tantalum, doped semiconductors, ceramics, photonic crystals, and metamaterial-compatible dielectrics), followed by midstream fabrication processes including thin-film deposition (CVD, PVD, ALD), nano/micro-patterning (lithography, etching, nanoimprint), and surface engineering to tune emissivity spectra. Downstream, these emitters are integrated into functional modules—such as TPV emitter stacks, IR sources, radiative cooling panels, or defense-grade thermal management systems—by system integrators and OEMs, before being deployed by end users in energy, aerospace & defense, industrial sensing, and advanced electronics markets.

This report studies the global Selective Thermal Emitters production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Selective Thermal Emitters and provides market size (US\$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Selective Thermal Emitters that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Selective Thermal Emitters total production and demand, 2021-2032, (Tons)

Global Selective Thermal Emitters total production value, 2021-2032, (USD Million)

Global Selective Thermal Emitters production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Tons), (based on production site)

Global Selective Thermal Emitters consumption by region & country, CAGR, 2021-2032 & (Tons)

U.S. VS China: Selective Thermal Emitters domestic production, consumption, key domestic manufacturers and share

Global Selective Thermal Emitters production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (Tons)

Global Selective Thermal Emitters production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Tons)

Global Selective Thermal Emitters production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Tons)

This report profiles key players in the global Selective Thermal Emitters market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Excelitas, Infracore, II-VI, Lynred, Photonic Lattice, Microcontinuum, ICX Photonics, OptoTech, Jenoptik, Oasis Photonics, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Selective Thermal Emitters market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US\$ Millions), volume (production, consumption) & (Tons) and average price (US\$/Ton) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Selective Thermal Emitters Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global Selective Thermal Emitters Market, Segmentation by Type:

Refractory Metal Based

Semiconductor Based

Ceramic Based

Global Selective Thermal Emitters Market, Segmentation by Operating Temperature Range:

Low-Temperature (900 °C)

Global Selective Thermal Emitters Market, Segmentation by Application:

Automotive

Aerospace & Defense

Energy & Power

Industrial & Manufacturing

Electronics & Semiconductors

Others

Companies Profiled:

Excelitas

Infrasolid

II-VI

Lynred

Photonic Lattice

Microcontinuum

ICX Photonics

OptoTech

Jenoptik

Oasis Photonics

NKT Photonics

Crystal IS

Neophotonics

Key Questions Answered:

1. How big is the global Selective Thermal Emitters market?
2. What is the demand of the global Selective Thermal Emitters market?
3. What is the year over year growth of the global Selective Thermal Emitters market?
4. What is the production and production value of the global Selective Thermal Emitters market?
5. Who are the key producers in the global Selective Thermal Emitters market?
6. What are the growth factors driving the market demand?

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