

# Self-Healing Coatings Market by Form (Extrinsic, Intrinsic), End-use industry (Automotive, Building and construction, Aerospace, Marine) and Region (Asia Pacific, Europe, North America, South America, and MEA) - Global Forecast to 2028

Market Report | 2023-05-25 | 164 pages | MarketsandMarkets

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### Report description:

The global self-healing coatings market size is projected to grow from USD 2.4 billion in 2023 to USD 10.4 billion by 2028, at a CAGR of 34.2%, between 2023 and 2028. The need for self-healing coatings is increasing for a variety of reasons. Firstly, standard coatings have a limited lifespan, and their fundamental qualities deteriorate with age, necessitating periodic maintenance and replacement. Self-healing coatings can repair physical damage or restore functional performance with little or no intervention, lowering maintenance costs and increasing coating life. Second, self-healing coatings have a wide range of applications in the construction sector because of their lightweight, chemical and physical consistency, and production capabilities. Third, a crucial aspect contributing to the attraction of self-healing coatings is their capacity to self-repair local damage induced by external sources. Furthermore, self-healing coatings, which may be created from a number of materials, including classic organic polymers and innovative inorganic materials, can prevent corrosion inhibitor failure. Finally, self-healing coatings are considered an alternative route for efficient anti-corrosion protection while maintaining a low demand for maintenance.

The intrinsic form type segment is expected to register the highest CAGR during the forecast period

The concept of intrinsic self-healing coatings is considered more competitive in terms of manufacturing and applications because the intrinsic healing ability is conferred to the polymer matrix. Thermoset polymer matrices with intrinsic healing capability have the advantage of multiple healing cycles as long as damage to the reinforcement fibers is not excessive or highly localized. Intrinsic self-healing systems are obtained through the modification of the polymeric matrix structure (crosslinking density, aromatic chains, crystallinity, for instance) or by the modification of the polymeric matrix through adding a thermoplastic modifier, obtained by a miscible or immiscible thermoplastic/thermoset blend.

The marine segment in end-use is expected to register one of the highest CAGR during the forecast period Self-healing coatings represent a well-established protection system that provides a barrier between a metallic substrate and the

environment. The development of a smart coating for the protection of metallic structures in marine and offshore applications is critical. The use of self-healing epoxy as an organic coating for metallic substrates is suitable. The self-healing epoxy is obtained by mixing Diels-Alder (D-A) adducts with a commercial diglycidyl ether of bisphenol-A (DGEBA) monomer. These coatings show good recovery and are assessed through morphological observation, spectroscopic analysis, and mechanical and nanoindentation tests. The complete self-healing procedure of epoxy-based system allow for the recovery of the protective efficiency of the coating against corrosion in the saline solution.

Middle East & Africa self-healing coatings market is estimated to register one of the highest CAGR during the forecast period

The nations under consideration include Saudi Arabia, South Africa, and the remainder of the Middle East and Africa. Because this region has 20% of the world's population, major residential construction is required. This demand, along with an expanding middle-class population, is expected to lead to modest growth in the coatings industry. Middle Eastern economic growth is essential to the development of commercial opportunities in the Gulf Cooperation Council (GCC). The bulk of Arab and African nations have made large investments in the construction sector. This is done to diversify their economy away from oil and associated enterprises and towards other industrial sectors. However, fluctuations in oil prices and geopolitical tensions are projected to have only a minimal influence on the rate of growth.

The break-up of the profile of primary participants in the self-healing coatings market:

- By Company Type: Tier 1 46%, Tier 2 43%, and Tier 3 27%
- By Designation: C Level 21%, D Level 23%, and Others 56%
- -¬By Region: North America 37%, Asia Pacific- 26%, Europe 23%, Middle East & Africa 10%, and South America 4%

The key companies profiled in this report are Autonomic Materials, Inc (US), Covestro AG (Germany), AkzoNobel N.V. (The Netherlands), BASF SE (Germany), Feynlab Inc (US), GVD Corporation (US), 3M Company (US), Shawcor Ltd (Canada), Winn & Coales (Denso) Ltd (UK), Revivify Canada, Inc (Canada), and others.

## Research Coverage:

This research report categorizes the self-healing coatings market By Form (Extrinsic, and Intrinsic). Based on the End-Use (Automotive, Aerospace, Building & Construction, Marine, and Others), and region (North America, Europe, Asia Pacific, the Middle East & Africa, and South America). The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the self-healing coatings market. A detailed analysis of the key industry players has been done to provide insights into their business overview, solutions, and services; key strategies; Contracts, partnerships, and agreements. new product & service launches, mergers and acquisitions, and recent developments associated with the self-healing coatings market. Competitive analysis of upcoming startups in the self-healing coatings market ecosystem is covered in this report. Reasons to buy this report: The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall self-healing coatings market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

- Analysis of key drivers (Growing demand for sustainable raw material building and construction), restraints (volatility in raw material prices), opportunities (expansion in untapped markets), and challenges (stringent regulatory policies).
- Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the self-healing coatings market
- Market Development: Comprehensive information about lucrative markets the report analyses the self-healing coatings market across varied regions

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- Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the self-healing coatings market

- Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like Autonomic Materials, Inc (US), Covestro AG (Germany), AkzoNobel N.V. (The Netherlands), BASF SE (Germany), Feynlab Inc (US), GVD Corporation (US), 3M Company (US), Shawcor Ltd (Canada), Winn & Coales (Denso) Ltd (UK), Revivify Canada, Inc (Canada), and others. The report also helps stakeholders understand the pulse of the self-healing coatings market and provides them information on key market drivers, restraints, challenges, and opportunities.

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