

## Market Report

# Global Optical Coatings Market

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## Abstract

As an enabling technology, thin film optical coatings find increasing use in many industries and add value to optical products. Advancements in thin film fabrication, deposition technologies as well as material science lead to the exploration of new application markets. The optical coatings market demonstrates rapid growth driven by demand from specialized applications and the ever expanding optoelectronics Industry.

Global demand on optical coatings was valued at approximately US\$6.5 billion in 2013 and is expected to grow by 6.5% annually in the coming years. Electronics and semiconductor combined presents the largest application market, while fiber optics & telecommunication combined is the fastest growing one. Instrumentation and security markets will continue their steady growth. Global trends in energy efficiency and solar energy provide vast potential for optical coatings suppliers.

Acmite Market Intelligence has finished a most comprehensive report on global optical coatings market. It is ready for order.

The report examines the current products and application areas, provides extensive market data of 2013, and market forecast through 2018 to 2022. It also evaluates market chances and risks, outlines the competition landscape, and anticipates future trends based on a series of influence factors.

- 225 pages analyzing the market
- 75 figure tables
- 250 optical coatings manufacturers profiled

With a multi-dimensional and in-depth view of global optical coatings market, this report is ideal help for you with decision-making in market entry and penetration, product research and development, and strategic management.

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## Volume II

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### Note:

Regions:

North America: US, Canada, Mexico (NAFTA region)

Asia Pacific: Countries of Asia, Australia, New Zealand

Asia Pacific\*: Asia Pacific excluding Japan

## 5 Market by product type

### 5.1 Antireflective coatings

#### 5.1.1 Products, features and applications

Antireflection coatings are coatings used to reduce reflection from surfaces of the optic. Deposited anti-reflective coatings vary in complexity from single layer to 10 or more layers.

Whenever a ray of light moves from one medium to another (such as when light enters a sheet of glass after travelling through air), some portion of the light is reflected from the surface (known as the interface) between the two media. Antireflection coatings reduce glare and ghost images from secondary reflections. This will result in a clearer and sharper image on any optical substrate.

#### **Single-layer interference AR coatings**

The simplest interference AR coating consists of a single quarter-wave layer of transparent material whose refractive index is the square root of the substrate's refractive index. Such coatings, theoretically, gives zero reflectance at the center wavelength and decreased reflectance for wavelengths in a broad band around the center.

#### **Multilayer AR coatings**

Multilayer antireflective coatings can reach the lowest reflectivity at a center wavelength. It is often applied to single laser wavelength or multiple, closely-spaced wavelength system to guarantee the lowest loss for center wavelength.

The multilayer broadband antireflective coating can reach higher transmission for broadband spectrum than the single layer broadband antireflective coatings. Therefore, it is the ideal for a wide range of multi-wavelength laser and white light application.

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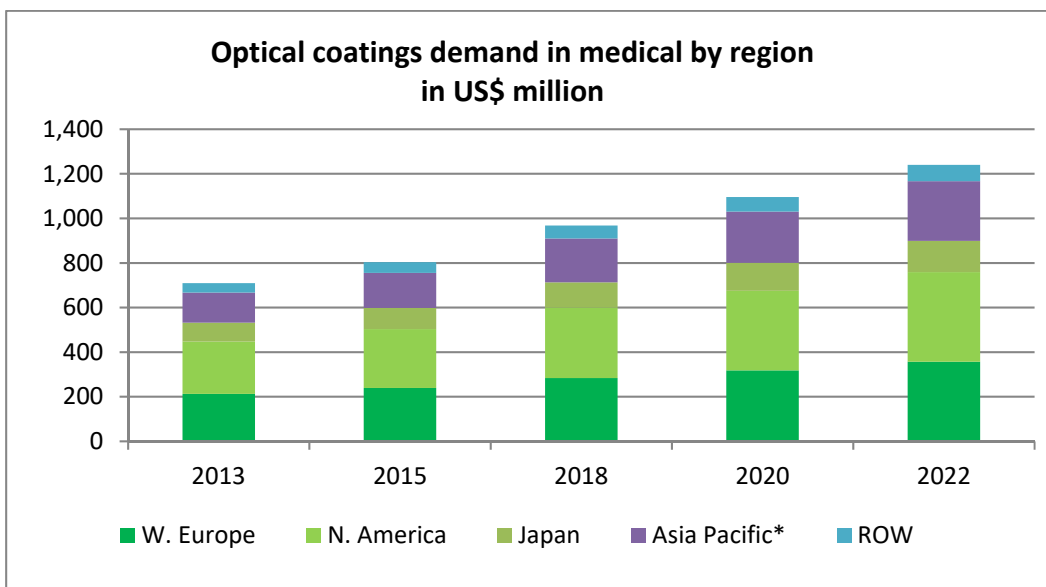
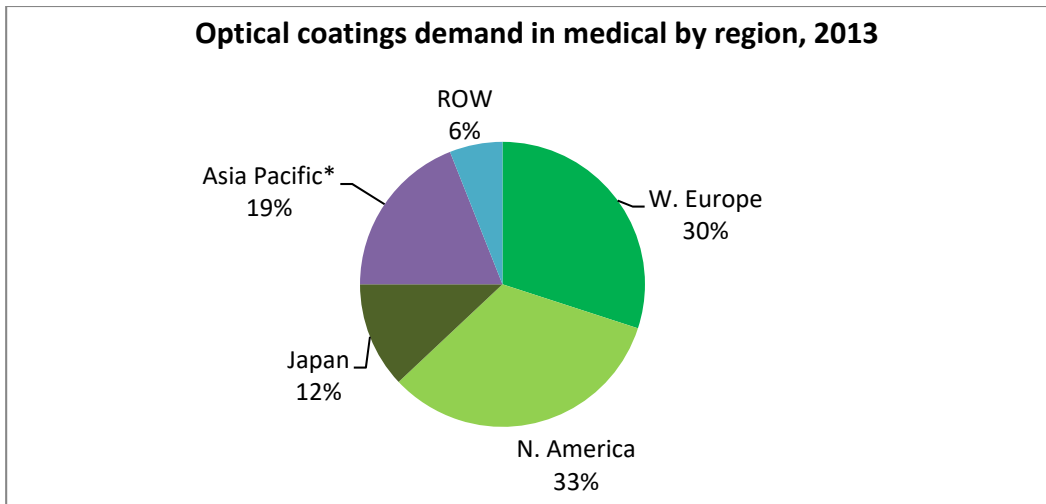
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**6.4.2.3 Optical coatings demand in medical by region**

Optical coatings demand in medical by region in US\$ million

	2013	2015	2018	2020	2022	CAGR
W. Europe	213	239	284	318	357	5.8%
N. America	234	264	317	357	402	6.1%
Japan	85	95	112	126	140	5.6%
Asia Pacific*	135	157	197	230	267	7.8%
ROW	43	48	58	65	74	6.2%
Total	710	803	968	1096	1240	6.4%



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## 6.6 Architecture

### 6.6.1 Products and market segmentation

As one of the fundamental elements of architecture, windows serve a very practical purpose. Advances in coating technology allow windows to play a greater role in energy efficiency. The impact of windows on energy consumption is various and complex, consequently many technical approaches have emerged for optical coatings to improve the performance of windows.

There are several optical coating systems used in architecture: anti-glare (anti-reflection) coatings, low emissivity coatings, solar control coatings, electrochromic coatings, etc.

Most modern architectural glazing incorporates optical coatings for thermal and aesthetic functionality. Coating processes are often closely coupled to the glass float line (such as pyrolytic coatings), or in subsequent vacuum coating processes. They can provide the key functionalities of low emissivity (and spectral selectivity, with respective coating stacks) and glare reduction.

#### **Anti-reflective coatings / anti-glare coatings**

Anti-reflective coatings / anti-glare coatings aim at reducing reflective or transmissive glare, and are therefore almost always designed as absorptive coatings. For thin film coatings, metals such as chromium, nickel, or suitable alloys (nickel-chrome or even stainless steel in varying compositions) are the most typical materials.

#### **Solar control coatings**

Solar control coatings are very commonly applied to glass. The fundamental function of a solar control coating is to reduce the heat gain of a window or facade by reducing the transmission of solar energy and to keep building ... ..

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## **PPG Industries Inc. (US)**

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Pittsburgh, PA 15272

USA

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Fax: +1 412-434-4170

<http://www.ppg.com>

Year of Foundation: 1883

Number of Employees: 41,400

Revenue: USD 15,108.0 million

### **Company profile**

PPG Industries Inc. is a company specializing in the manufacture and sale of coatings, optical and specialty materials, and glass products.

The company operates in five business units:

- Performance Coatings
- Industrial Coatings
- Architectural Coatings
- Optical and Specialty Materials
- Glass.

The company's optical products include lenses, optical lens materials, sun lenses, and amorphous precipitated silicas.

PPG's Hi-Gard® Lens Coating is applied to form a scratch resistant coating on ophthalmic lenses made from plastic materials. This optical coating material is a low viscosity solution, which is applied by conventional dip and spin coating ... ..

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C0620	Global Optical Coatings Market, Total (Volume I + II)	520	<input type="checkbox"/> EUR 1990	<input type="checkbox"/> EUR 2390	<input type="checkbox"/> EUR 3390
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