



THE CONTRIBUTION
OF **EPOXY RESINS**
TO **EUROPEAN BUSINESS**
AND **CONSUMERS**

EPOXY RESIN COMMITTEE



EPOXY
Tomorrow's technology, today

EPOXY RESINS IN THE EU

Epoxy resins are a highly diverse family of polymeric materials with outstanding chemical properties and performance characteristics.

Often simply referred to as epoxies, they were created in the 1930s and soon became widely available as adhesives. Today, more than 50 different substances known as epoxy resins are available on the market. Epichlorohydrin and Bisphenol A are their most common constituents.

They are used as coatings and reinforcing components in numerous everyday products and in highly specialised industrial machinery, from windmills, cars and floorings to food cans, IT components, sports equipment and many others.

EPOXY PRODUCTION

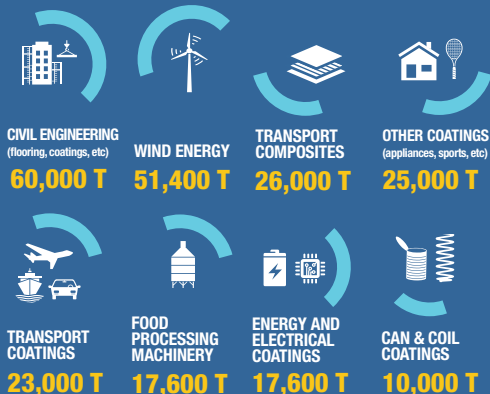


€806 MILLION SALES IN 2013

Production and sales data derived from a survey of ERC members' activity in 2013. Other data extracted from publicly available sources.

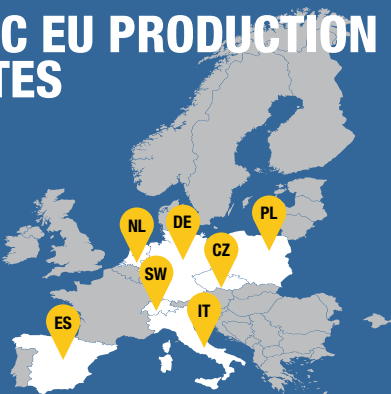
Visit www.epoxy-europe.eu for more information.

WHERE ARE THEY USED?



280,000 TONNES
PRODUCED EVERY YEAR

ERC EU PRODUCTION SITES



€16 MILLION
ANNUAL R&D



2,500
FULL TIME EMPLOYEES

KEY SECTORS



ENERGY & ELECTRICAL

LONGER, STRONGER AND LIGHTER **WIND BLADES**

ALSO USED TO **COAT STEEL AND CONCRETE TOWERS** OF WINDMILLS

WIND TURBINE POLES IN THE NORTH SEA ARE COATED WITH EPOXY TO **PROTECT THE STRUCTURE** FROM SALT WATER CORROSION

UP TO 50%
OF THE **WIND ENERGY MARKET**
MAY BE USING **EPOXY RESINS**



GREATER PROTECTION OF **ENERGY AND ELECTRICAL COMPONENTS**



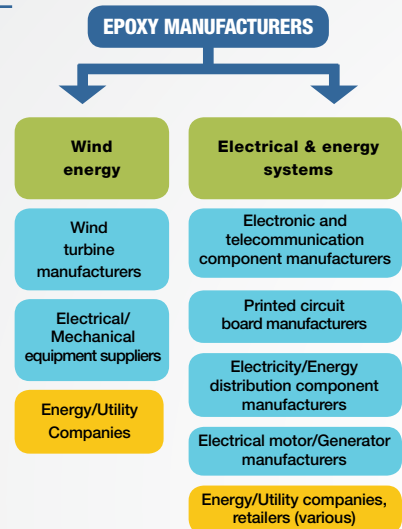
SMARTPHONES, MODERN MEDICAL EQUIPMENT LIKE MRI SCANS AND MANY OTHERS USE EPOXY RESINS AS AN ESSENTIAL COMPONENT

€208 MILLION ANNUAL SALES

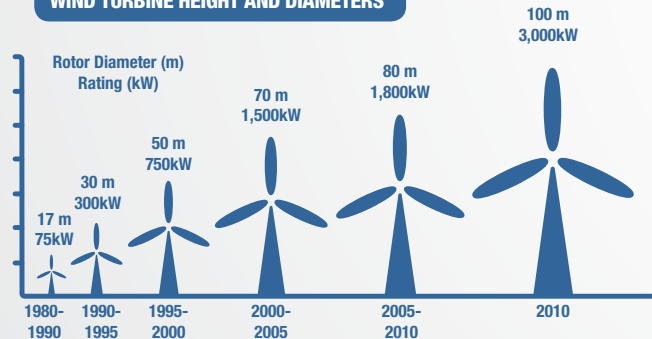
Epoxy resins are primarily used in the construction of wind turbine blades and applied as protective coatings. They provide strength, durability and lower weight, enabling the production of longer blades. Coatings prolong the operational lifetime of turbines and their components, lowering overall costs.

They are also found in electrical and energy distribution systems in the form of sealants, coatings and adhesives as well as in casting systems for transformers, insulators and bushings.

EPOXY MANUFACTURERS



WIND TURBINE HEIGHT AND DIAMETERS



EU ENERGY SECTOR

250,000 JOBS



IN WIND ENERGY

€7 BN



TURNOVER

+800,000 JOBS



IN THE ENERGY AND ELECTRICITY DISTRIBUTION DOWNSTREAM SECTORS

€187 BN



TURNOVER



TRANSPORT

LONGER-LASTING AND LIGHTER INTERNAL AND EXTERNAL COMPONENTS

REDUCED NEED FOR MAINTENANCE AND REPLACEMENT PARTS

PREVENT DAMAGE FROM DEBRIS OR CORROSION IN RAILWAYS

PROTECT AND INSULATE COATINGS AND PRIMERS IN BOATS AND SHIPS

EPOXY COMPOSITES SAVE 720,000 TONNES OF CO₂ AIRCRAFT EMISSIONS PER YEAR



€185 MILLION ANNUAL SALES

Epoxy-based coating technology was introduced in the automotive production process 30 years ago. Today, cars are coated in epoxy via cathodic electrodesposition (CED), a process which increases the resistance of bodywork to water and corrosion.

Epoxies deliver similar internal and external advantages to other means of transportation, prolonging the useful life of components and allowing greater use of composite components. Ultimately, they improve the efficiency of vehicles and save fuel, thus reducing CO₂ emissions.



Land and sea vehicle

Cars, motorbike and lorry manufacturers

Boat manufacturers

Train manufacturers

Transport component manufacturers

Train operators, hauliers/distribution logistics firms, car retailers

Aircraft

Aircraft manufacturers

Aircraft component manufacturers, incl. engine manufacturers

Aircraft maintenance repair overhaul contractors

Commercial airlines, aircraft leasing companies, national governments

EU TRANSPORT MANUFACTURING SECTOR

2,500,000 JOBS



45,000 COMPANIES

€908 BN

TURNOVER

EPOXY MANUFACTURERS

Construction and Civil engineering

Sealant, mortars, putty, adhesive manufacturers (professional)

Construction and civil engineering suppliers and constructors



CONSTRUCTION

INCREASED STRENGTH, DURABILITY AND WEATHER RESISTANCE

USED AS FIRE PROTECTION IN COMMERCIAL AND INDUSTRIAL INSTALLATIONS

EASY-TO-CLEAN SURFACES AS FOR EXAMPLE HOSPITAL FLOORING

€183 MILLION ANNUAL SALES

Epoxies are extensively used in buildings, roads and bridges thanks to their bonding and sealing properties. They are often used as replacements for mechanical fixings or applied to flooring to protect from wear, tear, slippage and create surfaces which are easy to clean.

EU CONSTRUCTION SECTOR

10,5 ML JOBS



3,3 ML COMPANIES

€1,556 BN

TURNOVER



FOOD AND WATER

LONGER SHELF-LIFE FOR **CANNED PRODUCTS**
GREATER HYGIENE AND **CHEAPER FOOD**

PROTECT LIDS FROM **CORROSION IN GLASS BOTTLES AND JARS**

USED AS LININGS TO **PRESERVE FOOD IN CANS AND OTHER PACKAGING FROM LOSING FLAVOUR**

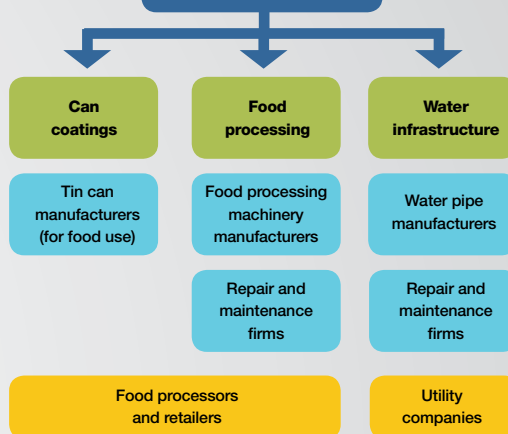
FEWER LEAKAGES AND **CORROSION IN WATER PIPES**

€75 MILLION ANNUAL SALES

Epoxy resins are applied to the internal coating of cans, preventing corrosion and ensuring a long shelf-life for canned goods. Consumers can store food for long periods, while producers can trade local and seasonal food all year-round.

Food and beverage processing machines use epoxy resins. They shield the food from being tainted by the machinery and vice versa, raising hygiene standards and lowering maintenance costs. Epoxies are also used to prevent corrosion and leaks in water pipes. They can be used in new or old pipes alike as joints or to repair holes or breaks.

EPOXY MANUFACTURERS



EU FOOD/BEVERAGE PROCESSING MACHINERY SECTOR

110,000 JOBS



6,000 COMPANIES

€21 BILLION TURNOVER



ASSESSMENTS FROM THE EUROPEAN FOOD SAFETY AUTHORITY (EFSA) CONCLUDED THERE IS **NO HEALTH RISK FROM CURRENT USES OF BPA**, INCLUDING IN FOOD AND OTHER APPLICATIONS. ANY REGULATORY ACTION SUBSTITUTING EPOXIES WITH SUBSTANCES WHOSE EFFECTS ON HUMAN HEALTH AND THE ENVIRONMENT HAVE BEEN SUBJECT TO LESS RESEARCH THAN EPOXIES WOULD BE DRIVEN BY REASONS OTHER THAN SCIENTIFIC RESEARCH AND LOWER FOOD AND CONSUMER SAFETY.



HOME AND LEISURE

HIGHER-PERFORMING, MORE RELIABLE AND FATIGUE RESISTANT **SPORTS GEAR & EQUIPMENT**

AFFORDABLE AND VERSATILE **TOOLS FOR HOMEOWNERS**

€80 MILLION ANNUAL SALES

Epoxies reduce weight and increase responsiveness of sports equipment enabling lighter, stronger and longer-lasting components. They are also sold as home improvement and do-it-yourself tools in local hardware stores.

EPOXY MANUFACTURERS



THE EPOXY RESIN COMMITTEE

The Epoxy Resin Committee (ERC) is a non-profit industry group of major European epoxy resins producers organised under Plastics Europe, the Association of Plastics Manufacturers in Europe.

The ERC acts as a source of action and information on issues and initiatives related to health, safety and environmental topics, and provides analysis on other factors affecting the industry to develop positions and policies aimed at creating a constructive dialogue with all interested groups.



CONTACT

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