



# Graphene Anti-corrosion coating

## Product Features

GAC-001 is a graphene modified anti-corrosion coating, leveraging the characteristics of graphene masking and inhibition to effectively mitigate oxygen, water, acid, and other corrosion factors. In addition, graphene's conductivity changes the oxidation-reduction potential of the metal surface, inhibits the oxidation of the metal, and further prevents the occurrence of corrosion.

Features:

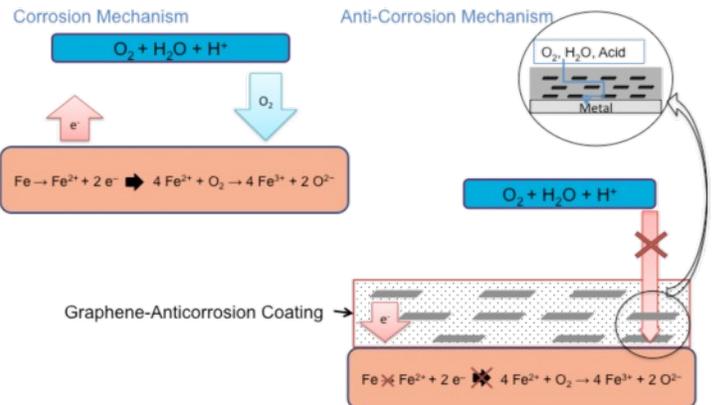
- This product has a high anti-corrosion property. It is at least twice better than the traditional coating paint.
- High solvent and acid resistance. Excellent salt spray resistance  $\geq 2500$  hours.
- Strong adhesion to base coat, great for mechanical engineering use.
- Convenient for popularization and industrial applications. Suitable for on-site construction.
- Recyclable, non-toxic, and low VOC, meeting the environmental protection requirements.
- Prevent charges accumulate on the surface of the material, which can avoid static electricity for all time.

## Application

Applicable to most steel equipment and construction; suitable for corrosion protection of interior surface of underground pipes for crude oil, refined oil, natural gas, and liquefied petroleum gas transmission.

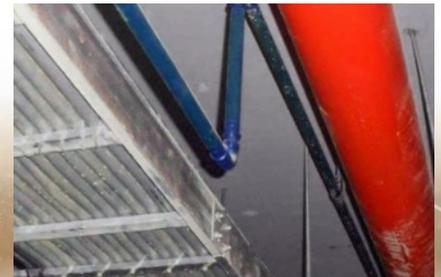
Typical application: ships, petroleum products, chemicals products, public construction, pipelines, military equipment, and other long-term machinery that constantly operate under harsh corrosive environment.

### Anti-corrosion mechanism



#### Application of Graphene in Anti-Corrosion Coatings Description:

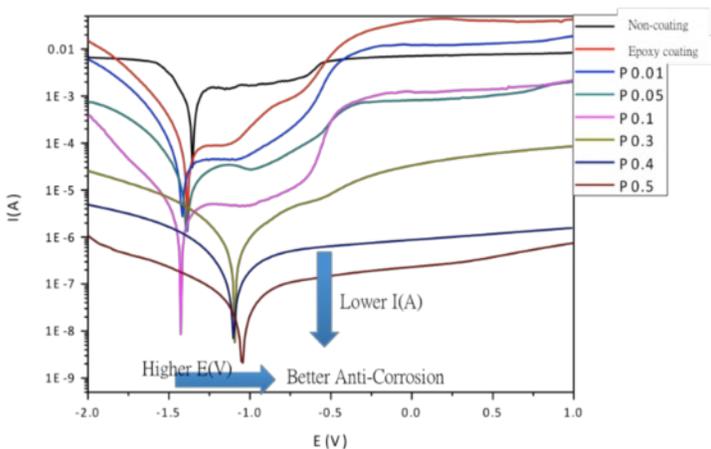
The graphene anti-corrosion coatings prevent the chemical reactions between metal block and acidic ion, to achieve the anti-corrosion effect.



Applications of Graphene Corrosion Resistant Coatings

## Anti-corrosion Performance

- Using electrochemical corrosion test, the carbon steel coated with 50  $\mu\text{m}$  thick graphene anti-corrosion coating can effectively reduce the corrosion rate of 2 times
- Salt spray test shows that the paint can prevent incipient corrosion at greater than 2500 hours
- In real-life application, the graphene anti-corrosion coated H-type carbon steel previously installed in a chemical plant environment near pH 2-3 shows no corrosion after 6 months.



### Graphene Corrosion Resistance Test

Long term experimental evaluation demonstrating anti-corrosion properties.

## Suggested Coating Method

Item(s)	Detailed Description
Recommended Mixing Ratio	GAC-001-A: GAC-001-B= 5:1 (Weight Ratio)
Operation Method	<ol style="list-style-type: none"> <li>1. Derust, degrease, clean, and dry the metal substrate before use.</li> <li>2. Equally mix A agent and B agent, then coat on the metal substrate by using brush coating method. (Or add diluent, then use spray coating method)</li> <li>3. After drying at room temperature (25°C) for 24hrs, harden the surface for another 1~2hr at 120°C.</li> </ol>
Operating Time	20~30 mins (25°C)
Film Drying Time	<ol style="list-style-type: none"> <li>1. 4 hours (25°C) surface dry</li> <li>2. 1~2 hour (s) (120°C) completely dry</li> </ol>

All information and properties are obtained from the tests that Angstron believes to be accurate. However, these values are presented for comparison purposes and do not represent a guarantee by the manufacturer. The customer should carry out their own tests of suitability for particular applications. Please contact our technical service department for further information regarding Angstron's products.

