

## Innovative Coating Materials That Overturns Conventional Wisdom

**NANOTECT®-A**

Abrasion-resistant coating

Outstanding mechanical properties in all characteristic tests  
Abrasion resistance 10 times higher than conventional resin coatings

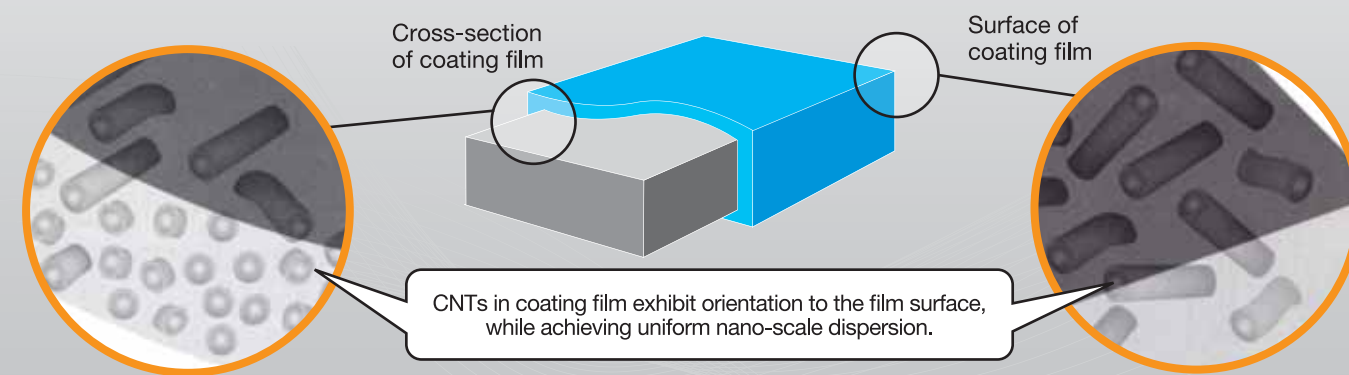
**NANOTECT®-C**

Corrosion-resistant coating

Superb mechanical strength and chemical resistance  
World's first composite coating with CNT to exhibit 3,000-hour resistance in salt spray tests

## Succeeds in Uniform Dispersion of Carbon Nanotubes in Composite Resin Coating

### Dispersion and orientation structure of CNTs in coating film



### CNT dispersion in solution

CSCNT<sup>1</sup> chemically treated using our proprietary grafting technique enables uniform CNT dispersion in resin polymers.

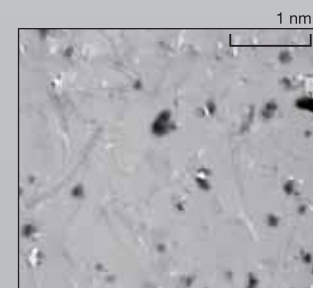


Grafted CNTs

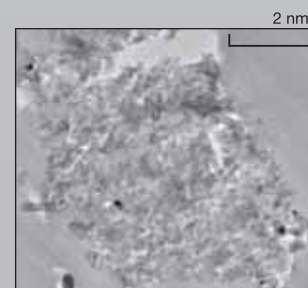


Non-grafted CNTs

### CNT dispersion in resin coating



Grafted CNTs



Non-grafted CNTs  
(CNTs dispersed in aggregates)

## Unlimited Potential for Wide Array of Applications

Our high performance coating materials protect product surfaces from scratches, rust, corrosion, burns and other damage, offering great promise for a wide range of applications including airplane parts, construction materials and automotive and other transport vehicle parts.



▲ Large structures/bridges, subways, buildings, offshore plants



**NANOTECT®** series holds great promise in various application fields



▲ Nuclear power plants



▲ Chemical plants/complexes



▲ Passenger/cargo aircraft

**NANOTECT®**

1. Nanotect® is a registered trademark of Takenaka Seisakusho Co., Ltd.
2. Patents applied in Japan, Europe, the U.S. and Taiwan jointly by Prof. Emeritus Inagaki of Institute for Chemical Research, Kyoto University; and GSI Creos Corporation (under the guidance of Prof. Emeritus Fukuda, Institute for Chemical Research, Kyoto University).



株式会社 竹中製作所 TAKENAKA SEISAKUSHO Co.,Ltd.

### ● Head Office

6-4-35 Hishie, Higashi-Osaka City, Osaka  
578-0984, Japan  
Tel. +81-6-6789-1555 Fax. +81-6-6782-2053  
URL: <http://www.takenaka-mfg.co.jp>

### ● Surface Preparation Division

Tel. +81-6-6782-2054 Fax. +81-6-6789-3270

TAKENAKA SEISAKUSHO Co.,Ltd.

## World's First Composite Technology That Combines Carbon Nanotubes (CNTs) with Resin Coating

Super-hard CNT-resin composite coating

**NANOTECT®**

Nanotect®: The first organic resin paint hybridized with carbonnanotube (CNT)

Recipient of a merit award and special award for technology management in the 2009 small and medium-size enterprise outstanding new technology and product award program

Selected as an R&D project commissioned by the Ministry of Economy, Trade and Industry under the 1st strategic core technology sophistication assistance program in 2006-2008

TAKENAKA SEISAKUSHO Co.,Ltd.



