

# Dow Corning 3rd Pillar Project

## Case study 2010

**Focus products:** Chartek® 1709, Intertherm® 751CSA, Ceilcote®

**Year of project:** 2006 through to 2010

**Location:** Zhangjiagang, Jiangsu Province, China

**Project owner:** Dow Corning

**Applicator/fabricator:** Peng Lai Young Hwa Heavy Duty Industry/YanTai, ShanDong province/  
Shanghai Baoye Steel Structure Company

**Surface preparation:** Sa 2.5

**ISO12944 environment:** C4

**Project size:** 60,000L key products (300,000L total)

### Background

Covering an area of one million square meters, the US\$1.8 billion Zhangjiagang site is China's largest facility of its kind and among the world's most advanced integrated production complexes for silicones. The site uses cutting-edge technologies to ensure high product quality and performance, which include advanced processes for raw material efficiency, a highly energy-efficient design, and environmental control technology. The plant provides a total capacity for siloxane and fumed silica products of approximately 200,000 metric tons per year which will support the vigorous growth in demand for silicone based materials in both the Chinese and Asian markets.

### The solution

Flammable and highly corrosive, the use of trichlorosilane, based product in the production of silicon, provided a unique challenge for the plant owners. If the plants trichlorosilane production areas are not adequately protected with a protective coating system, detrimental damage can occur. That point provided a large opportunity for Chartek 1709 which is a lightweight intumescent fire protection coating and its low density properties reduce the overall applied weight, compared to cementitious fire protection products.

Intertherm 751CSA provided the solution within the trichlorosilane production process, operating at temperatures as high as 400°C (752°F) long term, anti-corrosion

protection. Using one system to cover at this temperature reduces application complexity at new construction and was one of the reasons the plant owners choose to use Intertherm 751CSA.

In addition, Ceilcote from AkzoNobel was applied to the lining of the hydrochloric acid waste water tanks. With a proven track record in protecting against extreme chemical attack, Ceilcote provides a long term solution, minimising the potential for early repair and is designed to protect against a wide range of chemicals, including inorganic and organic acids, chlorinated solvents, aliphatic solvents and aromatic solvents.

