



# SIKA AT WORK

## BRIDGE DECK PROTECTION SOLUTION FOR NINGBO INNER RING ROAD, NINGBO, CHINA

WATERPROOFING: Sikacor® HM Primer, Sikacor® HM Mastic, Sikalastic®-827 HT

BUILDING TRUST



# STEEL BRIDGE DECK WATERPROOFING PROJECT

## PROJECT BACKGROUND

Ningbo Inner Ring bridge is the first time that Sika's waterproofing system for steel bridge decks has been applied anywhere in the world, it was a milestone occasion. Due to the layout of the Subway Line 4 at the intersection, a (58 + 72 + 51 m) steel-box girder structure with a cross-section width of 29.5 m was designed and installed at the Guangyuan Avenue intersection.

Due to the significant difference between waterproofing on steel bridge decks and on general road and cement-concrete bridges, the waterproofing system for the steel-box girder was specially designed for the north outer ring. The Shanghai Municipal Engineering Design Institute put forward strict requirements for stretch resistance, resistance to shearing and tensile strength of the waterproofing system. In addition both the client and the designer also attached great importance to durability and resistance to corrosion.

## SIKA'S SOLUTION

A series of long-term trials of the SikaCor® HM waterproofing system for bridge decks as recommended by Sika were conducted at the Design Institute. The results of the trials proved that this waterproofing system not only met the requirements for routine performance but also exhibited great advantages in properties such as flexibility in low temperatures and bending fatigue strength.

As an anti-corrosion primer for steel bridge decks, SikaCor® HM Primer not only meets the requirements for resistance to rust and corrosion of the steel deck plate, but also plays a good transition role in the construction of waterproof barriers. It is worth mentioning that the measured tensile strength between this primer and steel plate reaches or exceeds 8MPa.

SikaCor® HM Mastic is the waterproofing layer. Its performance in varying trials greatly exceeds the standards. In addition, it is a good carrier of the hot-melt adhesive used as part of the system.

Sikalastic®-827 HT is a hot melt pellet which provides mechanical locking and chemical bonding between the waterproof layer and the asphalt, which enables the system as a whole to be combined with the asphalt pavement more effectively so as to extend service life.

Since this waterproofing system requires expert construction, there were strict requirements for the degree of specialization required of the construction team. Sika therefore sent experts from Germany to provide specialized construction guidance. In addition, during the course of the installation, Sika's project chief, sales personnel, technical personnel and product management personnel stayed on-site to provide effective professional and technical support throughout the process.



# BRIDGE DECK PROTECTION SOLUTION INNER RINGROAD, NINGBO, CHINA



Owner: Ningbo TongTu Investment Development Co.Ltd.  
General Contractor: Ningbo Construction Group Co.,Ltd. /  
Jinan Construction Group Co.,Ltd.  
Design: SMEDI  
(Shanghai Municipal Engineering & Design Institute)  
Sika: Sika (China) Ltd.

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