



The value of validation: the TX Active® assurance



Ensuring results before construction starts with advanced testing



- 1** A sample of the TX Active® product is sent to our precast customer.
- 2** The concrete producer makes a surface sample and sends it back to Heidelberg Materials for testing.
- 3** Our facility places the sample in a chamber where light and gas are applied to it. We then measure the exact amount of remaining gas, verifying the photocatalytic result.

See reverse for a more detailed review of the process.

Photocatalytic cements deliver two primary benefits for the environment and building owner: depolluting benefits (cleaner air) and aesthetic benefits (cleaner buildings).

It's no wonder, the results TX Active® delivers are highly sought after.

Heidelberg Materials offers our customers validation that our TX Active® Cement is delivering the desired photocatalytic affect in your mix. This assurance is provided by testing your concrete sample; prepared with the proposed mix, exact materials, and finish/textures, before you start construction. This crucial step is uncommon in North America and unique to Heidelberg Materials.

This approval process is a part of the commitment you receive when working with us here at Heidelberg Materials, the largest photocatalytic cement manufacturer in the world.



Learn more about
bringing the innovative
properties of TX Active®
to your next design:



[heidelbergmaterials.us](https://www.heidelbergmaterials.us)

How the validation process works



De-pollution testing

UNI 11247



The NO_x depollution reaction chamber:

- Dynamic testing: exposing a surface to a polluted environment with a continuous concentration of NO_x gas
- Once the NO_x concentration reaches a specified equilibrium in the chamber, a UV light is introduced for a 40 min period
- The % NO, NO_x, and NO₂ in the chamber is monitored
- The results demonstrate the kinetic photocatalytic effectiveness during this pollution-depollution cycle

Conditions:

- Exposed surface: 70 to 100 cm²
- Volume of reaction chamber: 5.6 liter
- Gas flow: 0.831 liter/min
- NO_x concentration: 800 ppb
- NO_x measurement: by chemiluminescence
- Source of light: UV
- Light intensity: 1.45 mW/cm²

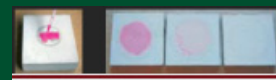


Self-cleaning activity validation

UNI 11259



- Monitors concrete sample treated with Rohdamine on exposed surface, and exposed to a UV source for 26 hours
- The measurements are done initially (0 hours – before the sample is exposed to a UV source) and after 4 hours and 26 hours of exposure to UV radiation.
- The experimental conditions:
 - Dying material: rhodamine (50 mg/l)
 - Concentration: 2.2 µg/cm²
 - Source of light: UV
 - Intensity of light: 0.4 mW/cm²
 - Testing time: initial (0), 4, 26 hrs



TX Active® photocatalytic cement comes with validation for samples prepared with the mixture and surface treatment that will be as built.

