Inorganic Pigments

LANXESS

Technical Information
Competence Center Construction

Edition: May 2002
Replaces edition: 07/91

Removing Efflorescence and Soil from the Surface of Concrete Pavers

Under the influence of the weather, efflorescence will disappear from the surface of concrete pavers in the course of time.

The length of the process depends on the climatic conditions and on the amount of traffic the pavers have to bear. In regions with much precipitation, efflorescence will be weathered off at a quicker rate than in countries with little rainfall, snow, hail etc.

If this natural process takes too long, one often tries to remove efflorescence by treating the concrete surface with dilute acid. This is done in the following way:

The concrete surface is wetted with water to be treated with a properly diluted commercial acid taking the requisite precautions: wear protective clothes, acid-resistant shoes, protective gloves, safety goggles. The treatment itself must be effected with great care; or else spotty surfaces may result. After a short time the pavers are thoroughly rinsed with flowing water.

The attached photographs are to give you an idea of the effect of the treatment:

Picture 1

shows the platform of a railway station with red concrete pavers on which heavy efflorescence has formed.

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Picture 2

The paver surfaces, wetted with water, are carefully sprayed with dilute acid applying low pressure. What should be avoided is treating too large a surface in one operation: the contact with the acid would be too long and the attack on the paver surface stronger than desired.

Picture 3
(Detail of Picture 2)

All the pavers you see are wet. It is obvious that those on the left-hand side have been acid-treated (the red is much deeper) whereas those on the right-hand side (paler color shade) are waiting for the treatment.

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Picture 4

The dilute acid is distributed with a broom to allow it to act homogeneously.

Picture 5

After the acid has acted for a short time, the concrete pavers are thoroughly rinsed with clear water (here with the help of a high-pressure cleaner).

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Picture 6

shows the same platform. The pavers in the foreground have already undergone the acid treatment; they have just been rinsed with water and are not yet completely dry. The strip of pavers in front of the three workers is being treated. The untreated pavers behind the workers show the same heavy efflorescence as illustrated by Picture 1.

The rinsing with water alone using a high-pressure cleaner permits removing dirt from the paver surface. **Picture 7** shows a very dirty concrete surface which has partly been cleaned (foreground): the original color shades are showing up.

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Also algae, moss etc. can be removed, as shown by **Picture 8** (before the treatment) and **Picture 9** (after treating the concrete surface with a high-pressure cleaner).

Possible drawback of high pressure cleaning: joints that are washed out must be refilled with sand.

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