

## ***Application Report No. A 11-3e*** **Semi-automatic Concrete Removal**

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Status: 03/2005

PTC, Italy



On one of the motorway bridges in Italy an additional lane had to be constructed, i.e. the width of the bridge had to be extended.

The existing concrete first had to be removed at a width of approx. 1000 mm. Then, additional reinforcements were connected to the old reinforcements which had already been exposed.

Using this method of operation it is ensured that the iron rods are not damaged and that the structure of the bridge is not subjected to any vibration whatsoever. Tests have shown that when conventional methods of removing concrete are applied (chisel, hammer, etc.) very fine cracks are left behind on the bridge construction (these are visible when x-ray photos are taken).

The advantage of the new method is that the adjoining surfaces are roughened extremely well and permit an optimum bonding with the new concrete.

Our partner in Italy carried out the job using a hydraulically-driven removal unit which was fitted to a small BOBCAT loader. The removal was effected using a KAMAT high pressure machine and a working pressure of 900 bar.

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Photo on the right:

**KAMAT High-pressure unit K 33036 A**

- 900 bar
- 165 l/min.

Concrete removal system mounted to the BOBCAT loader.

Photo on the right:

The adjoining concrete surfaces and the reinforcements which have been laid open, following surface treatment.

