



Conjet cleans up on major Zurich bridge



A Conjet 363 with an acoustic shroud made the concrete repair work at a bridge in central Zurich efficient and most of all environmentally friendly.

Specialist Swiss hydrodemolition contractor Wan-Jet AG responded to local environmental pressure and developed an acoustic shroud, which has considerably reduced the noise level of its Conjet Robots. The exceptionally quiet Robot 363 allowed an increased daily working time by 2 hours.

The exceptionally quiet 363 Robot also allowed Wan-Jet AG, its fellow Swiss contractors Locher AG and Brugger Aquajet AG, with identically shrouded Conjet Robots, to increase daily working time with the silenced water jetting machines by nearly 30% and boost productivity of their joint venture concrete removal contract on the 1.9 km long Sihlhölzli to Brunau road bridge in the centre of Zurich.

The Conjet Robots, equipped with different water jetting attachments, prepared and scarified the concrete deck for a new and stronger overlay. They also cut out concrete to receive new joints and strategically removed concrete from the edges of the deck, between 4,500 transverse prestressing tendons across the carriageways, to expose

reinforcement for casting on wider and stronger concrete parapets. A hydraulically driven spinning rotor head, equipped with four nozzles, was used to scarify the concrete deck, while a standard single oscillating nozzle, fixed to a multi-purpose articulating arm, selectively removed concrete from the deck joints and edge beams.

Wan-Jet's special acoustic shroud, fitting over the Robot's standard protective shield, dramatically cut noise level of the Conjet water jetting machines. Independent tests on site revealed the shroud reduced noise level of the standard Conjet Robot 363 from 115 dBA Leq to 93.1 dBA Leq taken at 3 m in front of the machine. A reduction of 3 dBA is equivalent to halving the noise. Ambient noise levels on site ranged from 76 dBA to 82 dBA. "Since fitting the shrouds production has improved as we can now work 9 high pressure hours/day instead of only seven," says Wan-Jet AG managing director Reinhard Frick.

The Conjet Robots, equipped with the rotor attachment scarified the deck and removed between 4 mm and 15 mm of concrete at a rate of up to 30 m²/high pressure hour. After deck scarifying the Robots' rotors were replaced with a single nozzle to cut out alter-

Case Stories



CONJET AB

P.O. Box 507
SE-136 25 HANINGE
SWEDEN

PHONE:
+46 (0)8 55 65 22 40

FAX:
+46 (0)8 55 65 22 60

E-MAIL:
conjet@conjet.com

WEBSITE:
www.conjet.com

APPLIED WATERJET TECHNOLOGY

nate blocks of concrete along the edge and the full depth of the deck between the prestressing tendons to expose the reinforcement. Additional reinforcement was tied into the edges of the deck slab prior to in-situ casting the new taller and stronger parapet.

The strengthened concrete deck was finished off with a new waterproofing membrane followed by an asphalt base and wearing course prior to the repaired viaduct was returned back to full traffic in the end of summer 2002.



The Conjet 363 with the specially designed acoustic shroud.



CONJET AB

P.O. Box 507
SE-136 25 Haninge
SWEDEN

Phone:
+46 (0)8 55 65 22 40

Fax:
+46 (0)8 55 65 22 60

E-mail:
conjet@conjet.com

Website:
www.conjet.com

Equipment Used

- 1 Conjet Robot 363 with a Conjet rotor and acoustic Shroud
- 1 Conjet Rowerpack