# Wirtgen W 220 mills surface course at the foot of Mont Blanc in half the time

Somewhat surprisingly, the Wirtgen W 220 large milling machine's first job in Italy did not take the high-performance machine to a highway but to a winding country road at the foot of Mont Blanc in the northwest of the country. It was at this location that the extremely powerful 577-kW machine made its mark, milling the surface twice as fast as scheduled.

10 km of new surface course along the route to the peak

The Strada Statale 26 (SS 26) stretches from the flat landscape of Piemont to the Alpine regions around Mont Blanc and includes a link to the Mont Blanc Tunnel. The road winds its way up to the Aosta Valley, reaching altitudes of almost 1,000 m and all sections are heavily trafficked, both by tourists and freight traffic. It is used by an average of some 5,000 vehicles per day.

The road was due for rehabilitation in the summer of 2018: The 4 cm-thick surface course was to be renewed across the entire width along a 10-km section. In some sections, rehabilitation of the 10 cm-thick binder course was due as well.

Cost-efficient quality

Full road closures are extremely difficult to achieve in the Alps, and so only one side of the SS 26 was blocked at one time when the road was rehabilitated in July and August 2018. But the contractor, Italfrese s.r.l., a Piemont-based company and one of Italy's largest milling contractors, was able to shorten the construction period by using the W 220. This is partly due to the machine ability to mill across 2.2 m in a single pass, meaning that just two passes were required in most areas, rather than three. What's more, the milling machine operated at an advance rate of 28-30 m/min – even at inclines of around 5%. Ultimately, the milling contractor completed the milling work in just half the time that would have been estimated for one of the smaller machines usually used on confined sections such as those on the Alpine pass. And all of this without compromising on quality.

Ernesto Franco and Emanuele Franco, Managing Director and Technical Director of Italfrese, were well aware of the time savings when planning the job: "In the run-up, we investigated which of our 12 milling machines could complete this job as economically and quickly as possible. And the answer was: the new W 220. Though the milling machine was operating at quite a high milling speed, it had not yet reached its technical limits. The immense engine power and the sophisticated control system enabled the machine to mill at a constant speed, even in regions at higher altitudes and on hairpin bends – a feat achieved while maintaining a moderate fuel consumption.“

Milling performances like these are achievable thanks to the excellent weight-to-power ratio of the new W 220: An operating weight of 36,360 kg meets an engine output of 571 kW (777 HP).

Intelligent use of power

In addition, the powerful drive enables asphalt pavements to be removed not just layer by layer, leveling unevenness in the surface course or increasing the grip, but also by removing entire roadways down to a maximum milling depth of 350 mm in a single pass. The Franco brothers agree: "This extra power often makes all the difference on large, time-critical projects at airports or on highways." Particularly when operating at large milling depths, the W 220 has another handy feature up its sleeve. The right-hand side plate can be raised by 450 mm, so that a curb can be scanned as a reference, even when working at large milling depths, and the machine can remove the pavement completely.

A glance at the traction drive shows that its power is harnessed intelligently, since Wirtgen has equipped the W 220 with the intelligent ISC traction drive. It delivers optimum traction with electronic traction control, adapts the advance rate of the machine to the current engine load and regulates the current speed of the external and internal crawler tracks on bends. On the SS 26, this was particularly advantageous on the many hairpin bends.

Optimum milling result thanks to adapted milling drum speed

Thanks to the variable milling drum speed of the W 220, on which three speeds can be set from the operator's stand, the machine operator can also influence the milling texture, i.e. the surface finish and the peak-to-valley depth. For the project on the SS 26, the Italfrese team decided to combine the maximum milling drum speed with a high advance rate when milling off the surface course. Meanwhile, the HT 22 quick-change tool-holder system and type W 7 cutting tools ensured cost-efficiency.

High machine utilization

Thanks to its powerful engine, the W 220 has plenty of steam, even when operating at large milling widths. The large milling machine therefore is not only available with the standard 2.2-m milling drum assembly, but also is optionally available with a 2.5 m-wide version. To enable the machine to flexibly produce certain surface textures, the "FCS Light" milling drum changing system also is optionally available for the 2.2-m milling drum assembly. As a result, milling drums can be exchanged quickly for drums with another tool spacing – be it standard milling drums, Eco Cutters or fine milling drums – equipping the machine for a wide range of different applications.

Quiet power development

Despite creating a machine with an immense power development, Wirtgen's development engineers were able to greatly reduce noise emissions. The Italfrese team immediately noticed this on the job at the foot of Mont Blanc. Thanks to this feature, the team has no concerns about working in residential areas, and indeed the milling contractor already has such a job lined up for its new powerhouse.

Fotos:

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|  | W\_photo\_W220\_00742 Thanks to the 2.20-m milling width, Wirtgen's W 220 was able to mill off the surface course across the full width of the roadway in just two tracks on most sections of the highway. The result: a 50% time saving. |

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|  | W\_photo\_W220\_00731 Even just in front of Mont Blanc at an altitude of 1,000 m, the W 220 operated at full capacity, effortlessly milling off the roadway at top speed. |

Fotos:

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|  | W\_photo\_W220\_00733 The milled texture reveals all: In this area, the Wirtgen milling machine was operating with a high milling drum speed and a high advance rate |
|  | W\_photo\_W220\_00730 Emanuele Franco (Technical Director), Ernesto Franco (Managing Director) and Pop Vasilev Gonco (Senior Milling Machine Operator) from Italfrese are overjoyed with the first job performed by their new W 220 large milling machine. |

*Note: These photographs are only intended as a preview. For printing in publications, please use the photographs in 300 dpi resolution that are available for download from the Wirtgen GmbH / Wirtgen Group websites.*

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