



## Metco Coating Service Solutions Industrial Fan Blades

### The situation

Air circulation axial fans in underground mines experience erosion and impact on the fan blades. This results in a short life span of only 3 to 6 months before the blades have to be repaired or replaced. These fans are huge, with the example in this document being approximately 3 m (10 ft) in diameter. The fan operates at 3 500 rpm, which results in blade tip speed of 560 m/s (1 830 ft/s). The tip speed amplifies the erosion and impact.

### The solution

Metco Coating Services can apply an impact- and erosion-resistant coating on the leading edge of the fan blades that is tenaciously bonded to the blade substrate. An additional hard and corrosion-resistant coating is applied to the remainder of the blade. This solution extends the blade life by a factor of 2 to 4 times that of uncoated blades. In this case, blades that previously lasted 3 to 6 months now last up to 12 months.

### Key benefits

- Reduced downtime, thereby increasing productivity
- Reduced maintenance costs
- Increased safety
- Increased fan efficiency

### Other applications

- Induced draft fans
- Forced draft fans
- Booster fans
- Flue gas recirculation fans
- Primary air fans



**Left:** Uncoated fan blade. Note wear and erosive pitting on leading edge and foil surface. **Right:** Fan blade coated by Metco Coating Services.



Information is subject to change without prior notice.