



no pollution Industrial Systems Ltd.

heading silently towards zero emissions

Soundproofing - Enclosure of Surface Hardening Plasma Gun

Jet engine blades operate at very high temperatures and with very tight tolerances. Surface hardening of the blades after manufacturing ensures greater life expectancy and prevents potentially catastrophic failures. One method consists in utilising ionised gasses, bringing them to a state of disassociation. Micron-grade coating material is then fed in the plasma stream, which is blasted on the parts that need hardening.

In this way the coating material penetrates the surface of the part, with only a local heating. The process can generate very high sound levels, in excess of 125dB(A), and needs to be carried out in a carefully controlled environment.

A specifically designed soundproofing enclosure was installed, to protect the machine operators and other personnel around the plant.

A double wall solution was chosen, effectively one enclosure inside the other, with the internal one having an insulated floor to reduce vibrations propagating across the cement.



Automatic doors were installed, operate by air cylinders, to load and unload the parts with ease.

A sophisticated ventilation system kept internal conditions controlled throughout the process.

Sound levels outside the enclosure were reduced to below 85dB(A), to the full satisfaction of the customer and operators.



- **Over 45dB(A) reduction in sound level**
- **Automatic doors for easy loading and unloading of parts**
- **Controlled Ventilation for cooling and dust removal**

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