

ALTEX QUENCH: THE NEW GENERATION OF INTENSIVE COOLING



Aluminum Technology Extrusion, these three words contain the essence and foundations of the ALTEX group, born to develop and apply the best technologies in the aluminium extrusion industry, making everything available to its customers. One of the first products developed by ALTEX allows to gain improvements on the production of aluminium profiles: the QUENCH. The Quenching system creates competitive advantages, increasing the quality and the productivity of the plants. It allows to overcome difficult audits and tests required by automotive and industry markets and opening to new applications of extruded profiles. The proposed new generation of Quench brings together a series of innovations.

The length; the new Quench has very high performances in just 4.5m. It could be easily inserted both in existing lines and in new solutions that can include multiple systems (4.5m + 4.5m), therefore having more flexibility in the complete management of intensive Air&Water cooling. Water-cooling,

5 independent control zones developed along the extrusion direction. Each zone has spiral cooling rings every 150mm, creating a system which provides a total of 480 nozzles, spraying high pressure-controlled water.

In this way it is possible to use the system with maximum precision and always set the best cooling for each type of extruded profile, guaranteeing and certifying the repeatability of the production process, a fundamental parameter in automotive.

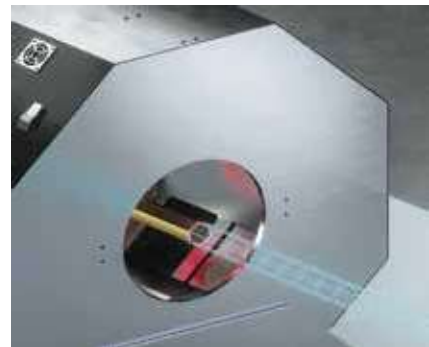
The intensive air-cooling system involves the use of a fan for each cooling channel to avoid the formation of turbulences that can influence the real thrust of the air, with an exit speed of 75m/s from the nozzle. Special closing valves allow the air flow to be blocked in 0.5s from the moment of production stop for the new billet, avoiding profile deformations typical of a non-homogenous cooling.

The new generation Quench reaches the state-of-the-art with the new studied and applied system that allows the immediate control of temperature, surface defects and perimeter measurements during the extrusion phase, installed both at the entrance and at the exit of the cooling tunnel.

The ΔQ -shape systems share the same measurement technique based on multi-wavelength laser profilometry. This technique allows to obtain measurements that

are extremely insensitive to possible vibrations of the material during transit within the measurement area, making the system extremely robust and reliable even in installations with very demanding operating conditions.

Advantages:



- ✓ Completedimensional profile control and verification of surface defects
- ✓ Complete traceability of the quality of each profile & detection of compliant/waste material
- ✓ Early detection of Quench System malfunction / misconfiguration

With the ΔQ -shape technology is possible to self-set the Quench system according to the temperature of the incoming profile and the subsequent monitoring of the dimensional and surface characteristics of the profile after the quenching treatment. The New Generation of Quenching systems is here, the future is ALTEX.

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