Endress+Hauser
People for Process Automation

Less waste and lower costs thanks to eco-friendly metal blasting process

Until recently, Endress+Hauser used 60 metric tons of glass beads every year for the surface treatment of flowmeters. By changing the blasting agent to stainless steel shot, only 2 tons are accumulated now. This innovation is good for the environment and saves resources.

Thousands of flowmeters for industrial process measurement engineering alone are made at Endress+Hauser's Reinach site in Switzerland. One step of the production involves welding together the two halves of the housings, causing reddish discolorations at the welding seams. "These 'temper colors' caused by the heat must be removed completely using blasting agents. If we didn't do that, atmospheric effects would corrode and destroy the untreated patches in no time," explains Boris Lauton, in charge of operating the grit blasting systems.

Following extensive tests, in 2012 Endress+Hauser decided to replace glass beads with stainless steel shot as the blasting agent for the cleaning process. This change has paid dividends in more ways than one – both in terms of the consumption and disposal of blasting material and health and safety.

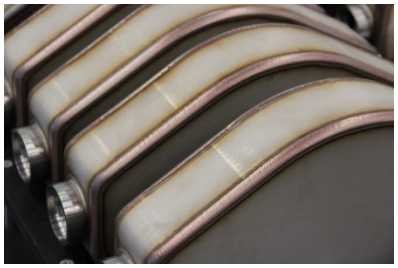
Safer work – less dust
Owing to the higher specific weight, cleaning with stainless steel shot generates substantially less dust than glass beads. The enhanced cleanliness increases safety levels in production and minimizes the risk of the dust being inhaled by the operators.

Environmentally friendly – less waste
With as little as 2 metric tons of metal powder per year, the use of stainless steel blasting material generates far less waste, compared to 60 tons of glass powder which cannot be recycled and must be disposed of as special waste. Also, the cost of disposing of glass powder, at 22,000 euros annually, is substantially higher than for stainless steel blasting agents.

Gentler process – less abrasion
Metal shot stresses the blasting agent systems to a far lesser degree than glass beads. The life of covers, hoses and blasting nozzles is increased by as much as tenfold.

Boris Lautons sums up: "The converted systems are not only good for the environment and save resources, but they are also substantially more cost-effective."

Captions



Critical temper colors: to prevent corrosion at a later stage, the reddish discoloration caused by welding must be removed by grit blasting.

Injector blasting system: several Endress+Hauser flowmeters are ready to be cleaned in the blasting chamber.

High pressure: the flowmeters are cleaned with six blasting nozzles, which blast the instruments at extreme velocity with ultra-fine stainless steel shot.

After the blasting process: the matt housing surface of an Endress+Hauser flowmeter.