

Case Study

Chemetall uncovers process issues and prevents future failures.

A quality control challenge caused by weld spatter at a large construction machinery manufacturer was identified and rectified with Gardoclean® A 5487.

Gardoclean A 5487 is an innovative addition to the preparation of multi-metals by reducing weld spatter and eliminating the formation of an area of weakness which can lead to a future failure.

Gardoclean A 5487

- ⊕ Protects your substrate from weld spatter.
- ⊕ Is easily removable in pretreatment cleaning step.
- ⊕ Leaves no negative impact on weld or weld area.
- ⊕ Easy to use and apply; no need for dilution or mixing.
- ⊕ Low or no smoke, improved welder environment.

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We create chemistry

Chemetall
expect more[⊕]

Gardoclean A 5487 comes to the rescue

Chemetall is in the business of surface treatment, but what does this mean? It means is that Chemetall is in the business of manufacturing process improvement through discerning innovation. If you're trying to make something, you want it to last. The best way to make it last is to pretreat the substrate material to reduce corrosion and increase paint adhesion as a barrier to rust. The process improvement opportunity in today's article is within a large construction machinery manufacturer that serves the agriculture and construction industries.



Also known as ACE (agriculture, construction, and earth moving), this equipment must be extremely strong and very reliable, there just isn't any room for a paint failure that could lead to the corrosion of the underlying metal. The manufacturer first requested Chemetall's assistance to analyze the presence of a noticeable amount of weld spatter and heat signature on welded areas. This process issue will almost certainly cause quality issues down the road, as the weld spatter was being carried through to pretreatment and paint and creating a weak spot that will cause a failure in the future.

The product being used had a few strikes against it right away – it required dilution, so an operator had to handle the product in a spray bottle prior to application. And, it had a potent and noticeable chemical odor as well as fumes that were persistent throughout mixing and application. It also caused a significant amount of weld smoke during the welding procedure.

Chemetall, with a long-held reputation for innovation and sustainability, has already engineered the perfect solution – Gardoclean A 5487.



Immediately after welding.

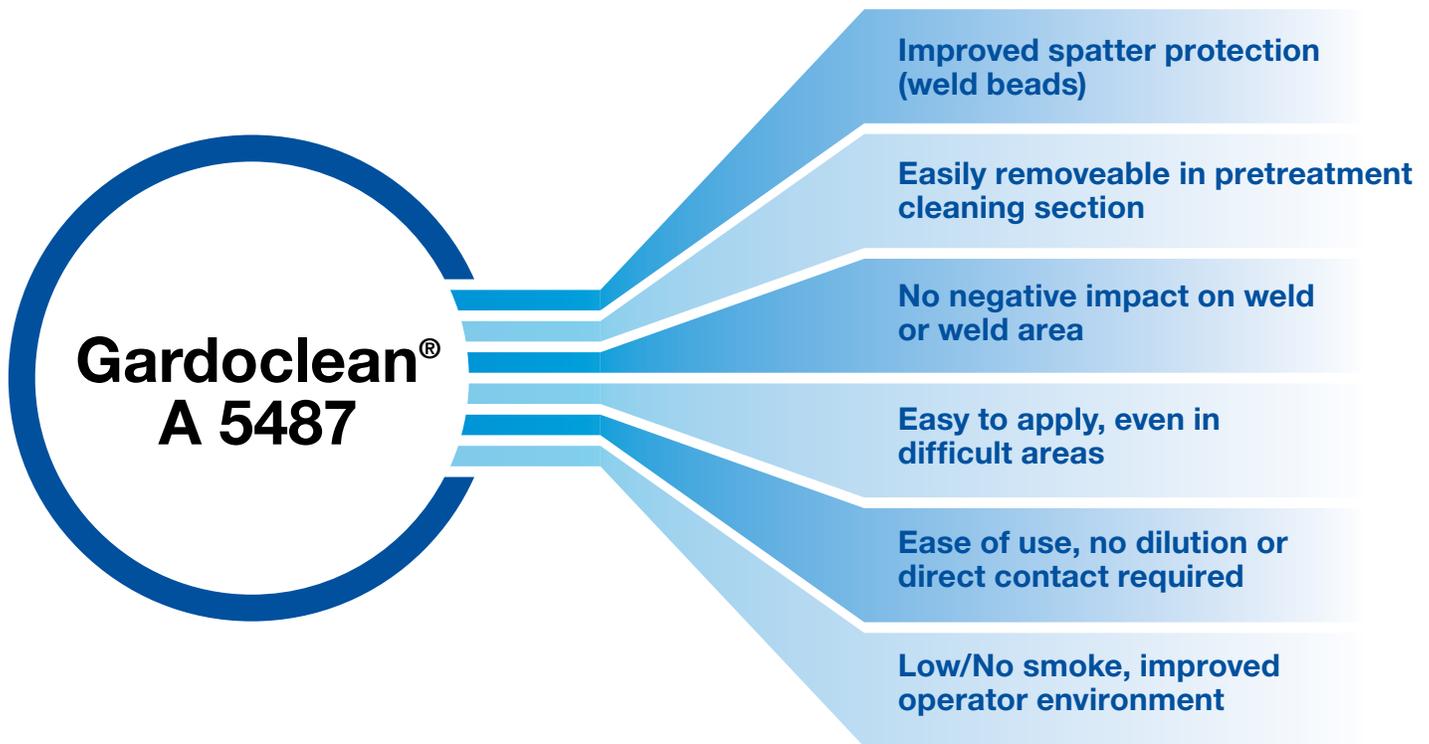


After dry rag wipe only.

A thin film of Gardoclean A 5487 is applied to the substrate prior to welding. These images show the significant reduction in the impact of the weld spatter on the substrate as well as the formal weld.

Gardoclean A 5487 is a water-based chemistry that is non-hazardous as a substance as it is a non-toxic soap-based formula with no solvents, silicones, or waxes. It is designed to be used exactly as received with no dilution step and the operator does not have to handle it. This increases the safety and accuracy by removing the risk of operator error. A thin film is applied to the substrate prior to welding by spray, brush, roller, or immersion.

As an added bonus, you can keep your MIG welder nozzle clean during the welding process by simply dipping the nozzle in Gardoclean A 5487.



Gardoclean A 5487 has been extensively tested by multiple manufacturers to minimize the impact of weld-spatter on the worker, the weld, the weld equipment, and downstream processes. In addition to the Gardoclean A 5487 performance on the metal substrate, the Gardoclean A 5487 has also shown an incredible ability to maintain cleanliness of the weld tip. This allows better welds and reduced maintenance time replacing tips.

The large construction machinery manufacturer was now ready to site test Chemetall's proposed solution. First, spray bottles were filled with Gardoclean A 5487, designed to be used as received. No operator mixing which removes the risk of human error and process variability. Gardoclean A 5487 has no smell and reduces the need to scrape the weld bead from hard to reach and large flat surface areas. There is little to no evident weld spatter immediately after wiping and there is minimal pooling of material. Finally, any excess residue is easily wiped away.

Results, Conclusions, and Moving Forward

Based on the results of this evaluation, the facility has decided to implement Gardoclean A 5487 into all 8 weld bays in their production process. Given the benefits and ease of use, these process enhancements are transferrable to any manufacturer with similar weld processes.



These images capture the cleanliness of the surface and the welds that are the result of Gardoclean A 5487. A thin film prior to welding and a dry rag wipe after welding provide the optimal results that your fabrication processes need.

Cut it. Clean it. Coat it. Control it. Conserve it.® with us!



Serving the ACE industry with innovative solutions.

At Chemetall, we are dedicated, so you can expect more. Our global specialists are locally available. Our experts provide focused, passionate, and accountable support. You can expect the highest quality from our integrated portfolio of innovative products. Our labs are fast and accurate. We will collaborate with you to increase the efficiency of your process performance.

We are the Surface Treatment global business unit of the Coatings division of BASF, operating under the Chemetall brand, a leading supplier of applied surface treatments and services for metal, plastic, and glass substrates in a vast range of industries and end markets. As process innovators, fully dedicated to your success, we develop, manufacture, and provide best-in-class technologies, systems, and expertise.

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