

BE INFORMED, NOT MISLED – KNOWLEDGE IS POWER WHEN CHOOSING THE RIGHT TANK COATING TECHNOLOGY

Premier coatings are not created by inventing a fancy, proprietary name for coating material. Premier coating systems are engineered through a combination of product (material) and process (application), supported by decades of R&D, experience and field-tested data. In order to differentiate one tank coating from another, you must distinguish the facts from marketing fluff.

The Coatings Technology Report is an informational series about coatings and coating processes that will educate you on how to make the best decision on tank coatings for your particular technical and commercial decision criteria.

FACT #6 Edge Protection is Critical on Bolted Tank Panels

Protecting panel edges from corrosion is a challenge for all flat panel tank manufacturers. During all types of flat panel coating processes, capillary action causes liquid coatings to pull away from sharp edges.

Contrary to what certain tank manufacturers suggest, providing additional protection for this critical area is ideal – **not excessive**. A premier tank manufacturer overcomes edge coating challenges by investing time and R&D to ensure that the desired edge coating thickness and durability are achieved on every panel. Removing sharp corners, applying protective layers to panel edges before coating and using robotic spraying systems have shown to be successful processes for improving edge protection.

1) Remove sharp corners from panel edges

A premier tank manufacturer utilizes advanced techniques that bevel or round tank panel edges before coating. Removing sharp edges minimizes the effects of capillary action pulling coating away from tank panel edges to achieve optimal coating thickness. This process takes time and adds cost, but achieving optimal coating thickness on all panel edges enhances the durability of tank panels, and thus, the longevity of the completed system. As one component of the Edgecoat™ process, CST Storage is the only known tank manufacturer that bevels its panel edges for better coating thickness.

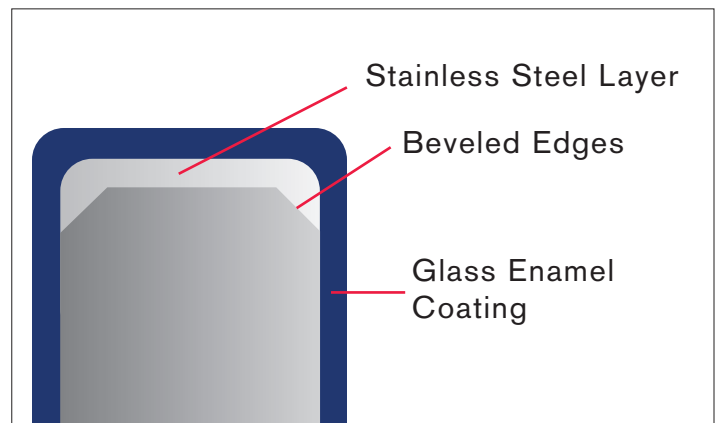


Figure 1 – This diagram illustrates some of the latest processes that improve edge coating and reinforce panel edge durability.

This diagram is for illustration purposes only and does not reflect the actual sizes and shapes of the process.

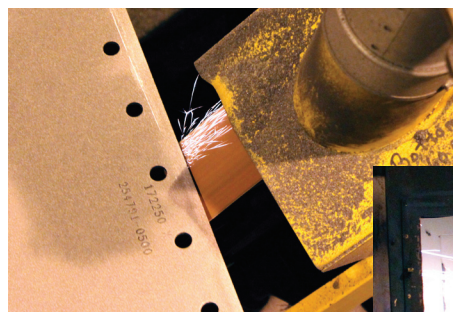


Figure 2 (Left) – Beveling or rounding panel edges helps achieve optimal coating thickness by minimizing the effects of capillary action.

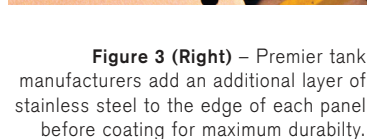
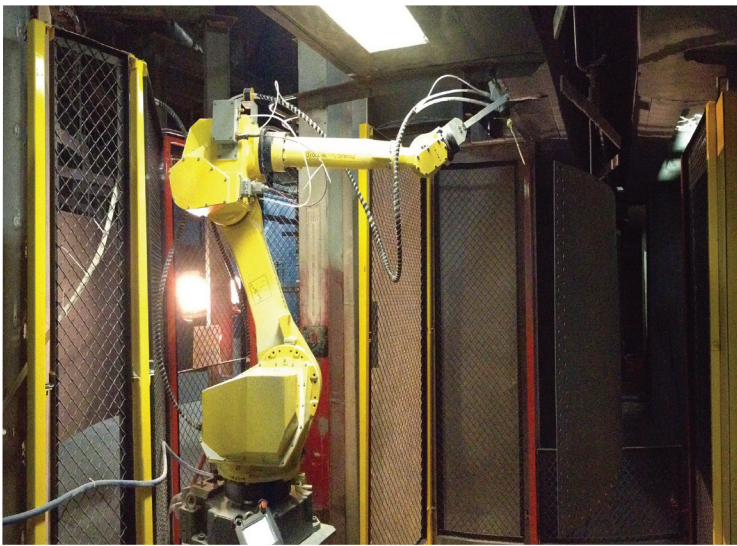


Figure 3 (Right) – Premier tank manufacturers add an additional layer of stainless steel to the edge of each panel before coating for maximum durability.

2) Fortify panel edges by applying protective stainless steel layers before coating

A premier tank manufacturer will apply an additional protective layer of material over the steel panel edge prior to top coating. This further protects the panel edge if the top coat is damaged. This process requires additional investment and takes extra time, but it gives the customer piece of mind that every panel edge will be more durable. As a second component to the Edgecoat™ process, CST Storage is the only manufacturer that applies a thin layer of stainless steel to panel edges before coating.



3) Apply coatings with a robotic spraying system
Many tank manufacturers hand-apply coatings, either in the field or at the factory. Other manufacturers employ automatic spraying systems to execute better coating coverage and to monitor process controls. But a premier tank manufacturer applies coatings with multi-axis robots. Robotic coating systems apply material efficiently and consistently to every panel edge while the panel travels along the production line. Because certain areas of the tank panel require specific motions and angles for optimal coating coverage, the added articulation and ability to program robotic coating systems means each panel receives the best coating coverage every time.

Figure 4 – Robotic coating systems are the best method to ensure that all panels – including their edges – are sufficiently coated.

Shortcuts may lead to edge coating failure

A premier tank manufacturer employs the most effective methods to properly coat and protect panel edges. Tank coating processes that do not take advantage of the latest edge coating technologies and processes run the risk of panel edge coating failure (see Figure 5) even before the tank panel is assembled.

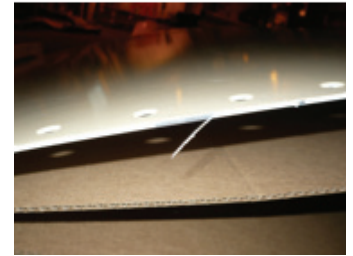


Figure 5 – Delamination of epoxy coating on the edge.

SO ASK:

“WHAT DOES YOUR TANK MANUFACTURER DO TO PROTECT PANEL EDGES?”

FACT #7 Edgecoat™ is NOT a Patented Edge Protection Process

As an industry leader, CST Storage took a risk that no other tank manufacturer was willing to take – to find a revolutionary new solution to the industry-wide challenge of better protecting tank panel edges.

By investing significant time, effort and money in engineering and equipment to bevel tank panel edges for increased edge coating thickness, and to apply protective layers of stainless steel to panel edges for maximum durability, CST Storage single-handedly pioneered the technology to virtually end panel edge coating failures. This is known as the Edgecoat™ process, and it has been successful in tens of thousands of storage solutions worldwide.

While the equipment CST Storage developed to execute the Edgecoat™ process is proprietary, the process itself is not. There is nothing restricting any tank manufacturer with the right engineering know-how from investing, developing and maintaining equipment that bevels panel edges and/or applies protective material over the edge before coating. Other tank manufacturers simply choose to not make this investment.

Only a premier tank manufacturer takes the necessary measures and makes significant investments in pursuit of new manufacturing processes for the benefit of the industry – and more importantly – the customer. It only makes sense that a customer would invest in a tank company that has already proven to be willing to invest in them.

SO ASK:

“WHAT INVESTMENT HAS YOUR TANK MANUFACTURER MADE IN EDGE PROTECTION?”

WHICH TANK SUPPLIER CAN YOU TRUST TO GIVE YOU THE RIGHT TANK COATING RECOMMENDATION BASED ON THE FACTS?

