

## INSIDE THIS ISSUE

Page 1 – Q & A, RSI-100  
Product Conformance  
Certification

Page 2 – Request for Articles

Page 2 – Production,  
Inspection and Test Planning

Page 3 – GPAC Update

Page 3 – Innovation in Rail:  
The Future of Mobility

Page 4 – Surface Preparation

Page 5 – AAR Training Dates

Page 6 – Useful Links

## Q & A, RSI-100 PRODUCT CONFORMANCE CERTIFICATION

Submitted by Tom DeLafosse – Salco Products

**Q: How will customers communicate their requirements and how do we communicate these requirements internally?**



**A:** Through our contract review process, any additional requirements we're not currently meeting are disseminated through our order processing system, which passes the requirements along to purchasing, operations, and shipping.

**Q: How do we identify which parts fall under RSI-100 and its Product Conformance Certification (PCP) codes?**

**A:** We decided that if the part/product line that we manufacture or distribute has a PCP code and can be utilized by multiple car types (Tank, Pressure Differential, Hopper, etc.), we treat the part/product line as a tank car part and apply RSI-100's PCP requirement to it. An example of this is the PCP code for Gaskets. We have many gaskets that can be used on multiple car types.

**Q: Why are Critical to Conformance (CTC) drawings required?**

**A:** It's how a part's design aspects that are critical to it performing its intended purpose are communicated to the customer so they can inspect and verify that the part(s) received meets the design requirements.

**Q: How do we ensure we process a customer's order correctly when the order has RSI-100 requirements?**

**A:** With a combination of creating CTC drawings, setting up parts with requirements that meet RSI-100 in our ERP system, updating our procedures, and training employees to support the revised procedures. After all operational processes are completed, a final inspection operation is performed which reviews the parts associated documentation and if everything is found to be accurate, a Certificate of Conformance (COC) is generated to accompany the CTC drawing and packing list that all go along with the shipment to the customer.

**Q: What is the benefit to implementing the RSI-100 program?**

A: RSI-100 provides a structured way to aid certified tank car facilities with both specifying the necessary tank car part and/or material ordering detail in the purchase orders to their vendors. It also provides the facilities inbound inspectors guidelines on what dimensional measurements need to be taken, as well as what documentation is required with each shipment.

**Q: Will we need to audit our supplier base differently than we have been?**

A: Yes, we will now perform supplier audits based off the RSI-100 Audit checklist. It's user friendly and offers an easy to follow format.

**PLEASE SUBMIT YOUR ARTICLE**

We need your input for our newsletter. We are looking for people who can provide their experiences to the new people in our quality world and for those who have experience but are looking for advice on how to improve what they do. If you have a better way to stay organized as a quality assurance manager, an in-process inspector, or tips on how to be the best final inspector, we want to hear about it. Let's share our knowledge and work toward continuous improvement. You can submit draft articles to Gary Alderson at [alderson@alltranstek.com](mailto:alderson@alltranstek.com) or Alfredo Ricardo at [ricardo@alltranstek.com](mailto:ricardo@alltranstek.com).



**PRODUCTION, INSPECTION, AND TEST PLANNING**

Submitted by Blanca Grosjean – TrinityRail

Inspection and Test Plans (ITP's) outline the specific inspections, tests, and quality assurance procedures one must follow during the manufacturing and maintenance of a railcar. ITP's ensure the required quality standards, specifications, and regulatory requirements are followed. They are used to record detailed production, inspection, and test activities, establish a permanent record of assigned responsibilities, and show the status of the in-process inspection.

The ITP process starts with the quality planning requirements stated in the Manual of Standards and Recommended Practices from the Association of American Railroads (AAR). Specifically, AAR M-1003 Section 2.5 Production, Inspection, Test Planning, 2.10 Incoming Inspection, 2.11 In-Process Inspection, and 2.12 Final Inspection. Development of the ITP considers all these sections of the standard along with other AAR, customer, and regulatory requirements.

Much of the information captured on the ITP is so that the facility can trace specific critical components back to their source. Maintenance facilities use this information to ensure the correct replacement parts are installed. There are rail industry requirements for component identification numbers (CID) on specific components like wheel sets, couplers, truck bolsters, side frames, and pressure relief devices that can be recorded on the ITP. As an example, the ITP may reference what needs to be recorded concerning the results of brake tests and reflectorization inspection which are required to be uploaded into a rail industry database Universal Machine Language Equipment Register ([UMLER](#)).

AAR maintains the UMLER system. AAR relies upon UMLER for accurate equipment data so that cars may be safely placed, moved, and tracked on the railroads by equipment owners and customers.

By following the ITP, facilities can better assure their products are high quality, meet the necessary standards, and comply with safety & other regulations. The ITP can help prevent defects and identify non-conformities early in processes. An effective ITP ultimately contributes to the quality and reliability of railroad equipment and components.

## GOVERNMENT AND PUBLIC AFFAIRS UPDATE

Submitted by Nicole Brewin – RSI

### Senate Panel Approves Rail Safety Bill After East Palestine Derailment

A Senate bill that seeks to shore up rail safety following the February derailment in East Palestine, Ohio, was approved in a committee markup with bipartisan support, despite qualms from the committee's top Republican, Sen. Ted Cruz.

The bill, S. 576 (118), would expand the use of devices to detect overheating train parts and defects, include more hazardous materials in a definition that requires trains to go slower and take more safety precautions, stop railroads from rushing inspectors, increase penalties for safety violations and improve communications with emergency responders. Finally, the bill does accelerate the phase out of DOT-111's in hazmat service by packing groups to May 1, 2028.

It's unclear when the bill will be brought to the Senate floor since while the Senate Majority Leader Chuck Schumer (D-NY) supports the bill, we've heard from Senate Commerce Committee Chair Maria Cantwell (D-WA) hint that the bill still doesn't have enough Republican support to pass on the floor and that further compromise may be necessary.

A companion bill on the House side has been referred to the House T&I Committee where it is pending consideration.

We will continue to monitor the bill and report on any signs of progress and/or additional movement.

## INNOVATION IN RAIL: THE FUTURE OF MOBILITY



July 20 | Washington, DC

RSI and its members are hosting a rail supplier technology event on Capitol Hill. It focuses on rail technology, regulations, and the economic contributions of the rail supply industry. The event aims to educate stakeholders on railroad technology and advocate for regulatory improvements to promote innovation. For more information, click [here](#).



### Have an Idea for an Article?

Please submit your drafts to Gary Alderson at [alderson@alltranstek.com](mailto:alderson@alltranstek.com) or Alfredo Ricardo at [ricardo@alltranstek.com](mailto:ricardo@alltranstek.com)

### Interested in Joining RSI QAC?

Contact Sheena Prevetie at [sprevetie@rsiweb.org](mailto:sprevetie@rsiweb.org)

### Not Getting the Newsletter and Want to Subscribe?

Contact Sheena Prevetie at [sprevetie@rsiweb.org](mailto:sprevetie@rsiweb.org)



## SURFACE PREPARATION – BLAST CLEANING/PROFILE

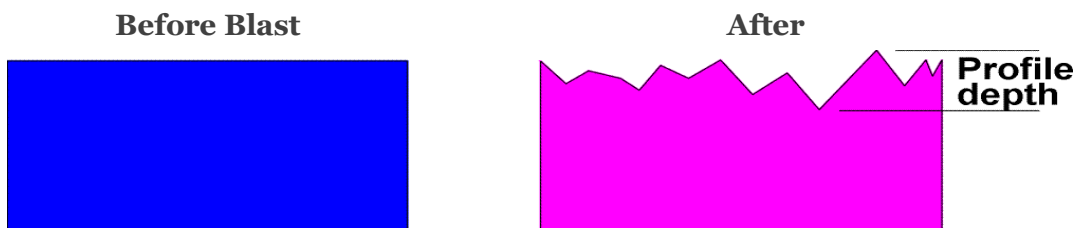
Submitted by Ken Campbell – Marmon Rail

There are two basic objectives in surface preparation when cleaning a metal surface:

1. To obtain a hard, continuous surface that will remain stable as a coating's substrate
2. To provide a cleaner metallic base to which the coating material will adhere more strongly.

The surface preparation must provide a surface that is compatible with the coatings material to be applied as specified by the coating manufacturer. The major considerations concern requirements for cleanliness of the surface and the surface roughness (profile or anchor pattern). The profile increases the amount of surface to which the coating may adhere. As much as half the cost of a coating job is surface preparation and labor, and this is justified by the importance of surface preparation to the long-term performance of the coating system. Chuck Munger, the author of Corrosion Prevention by Protective Coatings states: ***“70% of coatings failures are caused by poor or inadequate surface preparation, and that the proper surface preparation is the best insurance against premature coating failure”***. It must be recognized that when there is a lesser degree of surface preparation, coating systems longevity will likely be compromised. There is a direct relationship between the coating system thickness and the surface profile depth. These principles become even more critical when dealing with both corrosive and product purity services. Of all the methods available to provide the cleanest and largest effective surface per unit area, the use of abrasive blasting typically produces a surface closest to the ideal surface profile.

Consideration must also be given to coating selection, there is not “one size fits all” particularly when it comes to internal coatings. Each is developed with specific characteristics and chemical resistance principles and in many cases a particular commodity service in mind. However, it must be recognized that they are not all equal and coatings formulations must have the maximum capacity to lock onto the available bonding sites (profile). Surface wetting properties of a liquid coating are important for good adhesion and the material must remain stable to maintain adequate adhesion. Environmental pressures also come into play, formulators are under constant pressure to reduce the Volatile Organic Compounds (VOC's) and Hazardous Air Pollutants (HAPS). This in turn can drive the volume solid of the materials higher and with that comes the ability of the coating not to wet out as easily as the lower volume solid materials.



### ***Abrasive Size vs Surface Profile***

Factors that influence surface profile depth:

- Abrasive hardness
- Abrasive shape
- Abrasive size (typically the greatest influence)
- Distance: Nozzle to substrate

- Air Pressure
- Substrate hardness

Large abrasives cut deeper and produce a deeper profile. However, there is a tendency for the courser abrasives to cause a large surface deformation called “hackles”. Hackles are often the starting point of pinpoint rusting due to the hackle tip protruding through the coating. Therefore, a basic understanding of the profile height produced by various-sized abrasives and the relationship between coating system thickness as specified by the coatings manufacturer is essential.

Thicker coatings systems require a deeper surface profile. As a guide the surface profile depth should be specified at 15-20% of the total coatings system thickness. The higher the volume solid and film thickness the more beneficial it is to have a deeper profile. Many vinyl ester coatings require a minimum of 4 mil blast profile. However, having a deeper profile that is not required when utilizing a thin film coating can lead to the application of too much material just to cover the deeper profile to achieve the desired specification.

I can see future industrial coatings specifications invoking a minimum peak density (Pd) as well as depth of profile. We now have equipment in the marketplace that not only reads depth of profile but can also provide peak density. Currently, industrial coatings specifications rarely invoke a minimum peak density count. However, as a reference SSPC-PA17 is the ***Procedure for Determining Conformance to Steel Profile/Surface Roughness/Peak Count Requirements.***

Happy Blasting.

#### **References:**

ASTM D4417, *Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel*  
ASTM D7127, *Standard Test Method for Measurement of Surface Roughness of Abrasive Blast Cleaned Metal Surfaces Using a Portable Stylus Instrument.*  
ASME B46.1, *Surface Texture (Surface Roughness, Waviness and Lay). More for the Machining Industry.*  
SSPC-PA17, *Procedure for Determining Conformance to Steel Profile/Surface Roughness/Peak Count Requirements.*  
AMPP/NACE SPO287, *Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape.*

#### **[2023 AAR TRAINING – REGISTER BY CLICKING HERE](#)**

Submitted by RSI QAC M-1003 TAG

**Root Cause & Corrective Action Class - In-person:** The Root Cause Analysis and Corrective Action course is an interactive two-day training program and is designed to improve the problem-solving skills of employees by promoting the understanding of the processes and techniques used for effective root cause analysis and corrective action implementation. The intent is to enhance awareness of the underlying causes of problems that negatively impact many organizations' operations, quality, and profitability.

July 18-19 – Kansas City, KS  
October 24-25 – Pueblo, CO

**M-1003 Advanced Auditor Training Class – In-person:** The M-1003 Advanced Auditor Training Seminar is designed for those parties seeking in-depth training in AAR Quality Assurance

Program auditing techniques and practices. Attendees must have attended the AAR Basic Auditor Training seminar. The attendee must have performed at least one internal or external audit prior to attending the seminar. The course will include case study work, a detailed quality assurance manual review using the QAPE checklist, and various role-playing activities. Hands-on experience is obtained through participation in an on-site compliance audit, hands-on exercises, and other interactive activities to develop the knowledge and skills of the attendees.

August 1-3 – Mira Loma, CA

August 22-24 – Ciudad Sahagun, MX (Spanish)

September 12-14 – San Antonio, TX

**M-1003 Basic Auditor Training Class - In-person:** The M-1003 Basic Auditor Training is intended to improve the participant's knowledge, background, and skills needed in conducting M-1003 internal or external audits. This course provides a thorough review of the M-1003 requirements; development of an organization's Quality Assurance Manual/Procedures; and administration of a facilities audit program. Personal auditing experience is gained through active interaction in class discussions.

November 7-9 – San Diego, CA

## USEFUL LINKS

[Railway Supply Institute](#)

[RSI QAC & Previous Newsletters](#)

[RSI Tank Car Resource Center](#)

[Registry of M-1003 Certified Companies](#)

[M-1003 Frequently Asked Questions](#)

[American Society for Quality - Training](#)

[RSI 100](#)

[AAR M-1003 Certification on-line Application](#)

[AAR M1003, Section J Specification for Quality Assurance](#)

[AAR Training Schedule](#)

[AAR Circulars](#)

[MSRP Publication Current Revision Status](#)

[AAR Online Material Nonconformance Reporting System \(Chapter 7\)](#)

[AAR FAQ Page includes QAPE](#)

## THE FOLLOWING RSI QAC TEAM MEMBERS WORKED ON THIS NEWSLETTER:

Gary Alderson – AllTranstek  
Sheena Prevette – RSI  
Tom DeLafosse – Salco Products  
Alfredo Ricardo – AllTranstek

Ken Campbell – Marmon Rail  
Michael Ruby – TrinityRail  
Donna Jacobi – Amsted Rail

*The information given in this newsletter is for informational and educational purposes only. It is not intended to provide legal advice and should not be relied upon to make business decisions about any existing, future or prior rule, regulation or interpretation.*