

Construction Safety & Quality Consensus Guidelines

Small Order and Distributor Pipe Quality Guideline

Document	Revision	Date
CQ-G-2	1	7/3/2023

1.0. INTRODUCTION

- 1.1. This guideline describes the requirements for line pipe purchased directly from a Distributor inventory that is intended to be used in new or modified pipelines or related facilities. The recommendations are intended to outline the minimum level of documentation needed to allow Companies to maintain traceable, verifiable and complete records.
- 1.2. These guidelines do not address design activities, nor do they address all options available for the activities described.
- 1.3. These guidelines are not meant to supersede or replace regulatory requirements, nor is it intended to be all inclusive of the applicable regulatory requirements. Instead, view this data as supportive and complementary to any operating requirements.

2.0. SCOPE

- 2.1. This guideline is intended for pipe held in inventory by a Distributor or pipe ordered for inventory by a Distributor. For pipe ordered by a Company that requires a Distributor to order a Mill Run of pipe from a Manufacturer, the applicable Company pipe specification shall apply.
- 2.2. The following manufacturing processes are covered under this Specification: seamless (SMLS); high frequency electric welding (HFW); and submerged-arc welding (SAWL & SAWH).
- 2.3. This guideline shall apply to the following pipe:
 - 6-inch NPS and greater
 - PSL-2 for API 5L certified pipe
 - Single grade certification for API 5L grades X52 and above, i.e. no dual API X60/X65 stencil based on test sample.
 - Single API 5L, or if agreed dual API/ASTM certification/stencil

3.0. DEFINITIONS

- 3.1. **AML** Approved Manufacturer's List
- 3.2. **Company** The pipeline company or buyer
- 3.3. **Distributor** Organization that furnishes manufactured pipe to Company
- 3.4. **Facility Pipe** Pipe that is installed within compressor stations, meter stations, gas pipeline assemblies, processing plants, or other pipe fabrications.



Document	Revision	Date
CQ-G-2	1	7/3/2023

- 3.5. **ITP** Inspection and Test Plan (sometimes referred to as Quality Assurance Plan (QAP))
- 3.6. **Line Pipe** Pipe used for pipelines or pipeline facilities, typically mainline pipe
- 3.7. **Manufacturer (Pipe Mill)** Organization responsible for pipe production (manufacturing)
- 3.8. **Mill Run** A large quantity of pipe order placed directly with a pipe mill
- 3.9. **MPS** Manufacturing Procedure Specification
- 3.10. **MPQT** Manufacturing Procedure Qualification Testing
- 3.11. MTR Material Test Report
- 3.12. **PO** Purchase Order
- 3.13. **PSL-2** Product Specification Level 2 (ref. API Spec 5L)
- 3.14. Quote Commercial Quote for Pipe procurement
- 3.15. **RFQ** Request for Quote (required pipe material requisition)

4.0. CODES, STANDARDS AND REFERENCES

Unless otherwise agreed, the pipe furnished under this guideline shall meet, as a minimum, all mandatory requirements set forth in the latest editions of the following specifications, codes, standards or regulations. If agreed, supplemental requirements and "if agreed" clauses of the specifications may apply. The clauses or sections of 49CFR192 that are applicable to manufacturers shall be specified by the distributor.

Document	Title
API Spec 5L	Specification for Line Pipe
API RP 5L1	Recommended Practice for Railroad Transportation of Line Pipe
API RP 5LT	Recommended Practice for Truck Transportation of Line Pipe
API RP 5LW	Transportation of Line Pipe on Barges and Marine Vessels
ASTM A53/A53M	Standard Specification for Pipe, Steel, Black and Hot- Dipped Zinc-coated, Welded and Seamless
ASTM A106/A106M	Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service



Document	Revision	Date
CQ-G-2	1	7/3/2023

Title 49, Code of
Federal Regulations,
Part 192Transportation of Natural and Other Gas by Pipeline:
Minimum Federal Safety Standards

5.0. GENERAL REQUIREMENTS

- 5.1. The Distributor should have established procedures for the qualification and onsite or virtual audit of Manufacturers who supply materials under this guideline. The Distributor should keep and make available upon request all inspection and audit reports performed on manufacturers being considered.
- 5.2. All pipe should be supplied from manufacturers listed in Company's latest AML unless specified on the RFQ or PO by Company.
- 5.3. Pipe shall be supplied in conditions meeting both physical dimension and visual quality.
- 5.4. Under these guidelines, pipe is limited to PSL-2 delivery conditions: as rolled, normalized, or thermomechanical controlled rolled (TMCP). Stress-relieved condition is excluded.
- 5.5. Distributor should submit the following documentation at the time of quotation. All documentation provided shall match and be traceable to the specific material considered for supply:
- 5.6. MTRs from the source manufacturer that include diameter, wall thickness, chemical, and mechanical testing results (including hydrotest) complete with heat number. A compliance statement of hydrostatic test pressure and duration is acceptable.
- 5.7. ITP outlining inspection activities planned for the specific pipe intended to be supplied:
 - MPS, if available
 - MPQT, if available
 - Mill loadout tallies, if available
 - Pipe listing, if available
 - If pre-coated pipe is procured
 - Coating Type
 - \circ Coating manufacturer
 - Coating thickness
 - Coating test reports
 - \circ Coating date and location



Document	Revision	Date
CQ-G-2	1	7/3/2023

- Quality Control
- 5.8. Distributor shall inform Company if the pipe considered for supply was part of a mill-run order placed directly by the Distributor with the pipe manufacturer or if the pipe was obtained by the Distributor by other means. The Distributor shall inform Company if the pipe considered for supply was downgraded due to inadequate or excessive strength, e.g. pipe intended as X70 but poor test results degraded to X60.
- 5.9. MTRs must be provided with all pipe supplied as requested in the RFQ or PO. MTRs must clearly indicate the pipe manufacturing specification that was followed.
- 5.10. All pipe supplied by Distributor must have the heat number and API Monogram stenciled on each pipe joint associated with the applicable MTR, in order to certify and verify each pipe joint with the MTR. The individual pipe identification number, serial number, joint number, etc. may still be marked.
- 5.11. Scabs, slivers, deep scratches, sharp projections and burrs shall be removed by grinding, provided the surface is smooth, uniformly contoured, and the remaining wall thickness is not less than the specified minimum (Refer to API 5L). If scratches, dents, deep or rough grinds, gouges, and other surface imperfections (excluding hot rolling imperfections) are scattered, but appear over a large area in excess of what is considered a workmanlike finish, the surface imperfections shall be cause for rejection of the pipe, even if the individual imperfections would be permissible per this guideline.
- 5.12. Pipe with heavy surface rust, pitting, crevice and/or rack storage corrosion (exclude uniform superficial corrosion) over a large area in excess of what is considered a workmanlike finish shall be cause for rejection of the pipe, even if the individual imperfections would be permissible per API Spec 5L.
- 5.13. Pipe with dents of any size or shape that exceed API 5L limits shall not be accepted. Grinding, jacking or hammering to alleviate or remove a dent condition is not permitted.
- 5.14. Coated pipe with excessive holiday's, i.e. not able to be repaired, and/or coating thickness less than specified on the purchase order shall be cause for rejection by the buyer.
- 5.15. Questions on the acceptability of surface quality, imperfections, and/or other defects shall be presented to the Company for approval prior to shipment of the pipe from the Distributor's facility.



Document	Revision	Date
CQ-G-2	1	7/3/2023

6.0. DOCUMENTATION

- 6.1. The Distributor shall provide heat and lot identity for all pipe.
- 6.2. Distributor shall provide the following documentation to the recipient(s) designated on the PO:
 - Certified (by the Manufacturer) MTRs complying with the documentation requirements of API Spec 5L or ASTM, as applicable and 49 CFR Part 192.
 - Statement of conformance with API Spec 5L (with API monogram) or ASTM, as applicable (this may be combined with the certified MTR).
 - Pipe measurements from Distributor inventory
 - Load out tallies from Distributor to Company
 - Records of any supplemental testing performed on the pipe while in the Distributor's inventory

7.0. INSPECTION

- 7.1. Company Representatives shall have access to all areas associated with the subsequent processing, e.g. shipping, coating, etc., of the pipe where such subsequent processing is part of the PO. Such access applies to facilities of both Distributor and any subcontractors or suppliers involved in relevant work.
- 7.2. Adequate space and lighting shall be provided in the inspection area to be used by the Company Representatives.
- 7.3. Company shall review all MTR information and reserves the right to reject material based on non-conformance to referenced specification(s).

8.0. STORAGE AND TRANSPORT

- 8.1. Bare pipe in outside storage shall be stacked off the ground and separated from storage racks by non-corrosive materials. The pipe ends should not come into contact with the ground and be kept clear of any surface water.
- 8.2. Distributor must inform Company of the duration pipe has been stored and any preservation procedures that have been put in place.
- 8.3. Pipe stored longer than 3 months should be stacked at an angle greater than 3 degrees to insure adequate water drainage from the pipe interior.
- 8.4. Pipe in consideration that has been stored may be inspected at Company's discretion prior to delivery to check for corrosion damage and traceability records.



Document	Revision	Date
CQ-G-2	1	7/3/2023

9.0. HANDLING & LOADING

- 9.1. Pipe shall be handled in a manner that is safe for all personnel and property at the site. Jarring, swinging or unnecessary manipulation of a lifted load shall be avoided.
- 9.2. Pipe shall be handled so as to prevent damage to pipe, pipe ends, and pipe coating.
- 9.3. Prior to loading, rail cars, trucks, ships or barges shall be cleaned of debris or any substance that might damage the pipe or coating during loading or transit.
- 9.4. Distributor shall provide a copy of the load-out tallies showing footage of each joint of pipe for receipt by the Company at the shipping destination. For transport by rail or water, load-out tallies shall be supplied to the Company prior to arrival of pipe.
- 9.5. Discovery of transit fatigue cracking shall be grounds for the rejection of the entire shipment until absence of cracking of the balance of the shipment is proven.

10.0. ADDITIONAL REQUIREMENTS

10.1. Inventory Testing

If specified on the RFQ or PO, additional pipe material testing may be required to qualify Distributor's inventory. This testing must be performed on existing stock pipe and test results accepted before final acceptance and delivery to Company. The testing and approval requirements will be specified in the RFQ or PO and may include, but are not limited to, any of the following:

- Charpy impact test
- Tensile test
- Hardness test
- Drop weight tear test
- Hydrostatic test
- Chemical analysis for elemental composition
- Pipe end dimensional test
- Coating testing
- Certified Mill Test Report
- 10.2. The Certified Mill Test Report (MTR) shall conform to the requirements set by API 5L paragraph 10.1.3.1 for PSL-2 pipe. The certificate shall be in accordance with the format specified as Inspection Certificate 3.1.B of ISO 10474:2013 or Inspection Certificate 3.1 of EN 10204. The information listed on the MTR shall



Document	Revision	Date
CQ-G-2	1	7/3/2023

include the items applicable to the product, e.g., HFW, SMLS, listed in API 5L paragraph 10.1.3.2.

10.3. Minimum Inspection Level – Distributor Ordered Mill-Run for Inventory

For pipe delivered to this guideline, the following non-mandatory items from API 5L shall be considered mandatory and minimum level for acceptance:

Paragraph 8.9.2: The sizing ratio for cold-expanded pipe shall not be less than 0.003 or more than 0.015

Paragraph 9.8.2.2: For welded pipe with $D \le 508 \text{ mm}$ (20.000 in), the minimum average (set of three test pieces) shear fracture area for each test shall be at least 85%, based upon a maximum test temperature of 0 °C (32 °F).

Paragraph 9.13.2.2(e): For SAW and COW pipes, for a distance of at least 150 mm (6.0 in) from each end, the outside weld bead shall be removed by grinding such that it does not extend above the adjacent pipe surface by more than 0.5 mm (0.020 in).

Table 18, Item 10: For HFW pipe, CVN impact testing of the longitudinal seam weld of welded pipe at 0 $^{\circ}$ C (32 $^{\circ}$ F) with specified CVN test piece size defined by outside diameter and specified wall thickness as given in Table 22 with a frequency of Once per test unit with the same cold-expansion ratio.

Paragraph 10.2.3.3: Note the CVN test piece not covered in Table 22 shall be excluded.

10.4. Deviations

All requests for deviations from the Request for Quote (RFQ), Purchase Order, or this Guideline shall be received by the Company in writing. Written authorization from the Company's Procurement Department will be required for any change that will affect compliance with this Guideline.

11.0. HISTORY OF REVISIONS

Revision	Date	Description
0	6/2018	Initial Issue
1	7/3/2023	General Refresh