



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 24, 2026

Mr. Robert Real
Mechanical Engineer II
Chart Industries
407 Seventh Street NW
New Prague, MN 56071

Reference No. 26-0011

Dear Mr. Real:

This letter is in response to your January 19, 2026 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the construction of specification MC 338 cargo tanks. Specifically, you seek clarification on the postweld heat treatment (PWHT) requirements for these cargo tanks when constructed in accordance with Part UHT in Section VIII of the American Society of Mechanical Engineers (ASME) Code as prescribed in § 178.338-2(e) and whether what is described therein is absolute or conditional based on ASME Code allowances.

We have paraphrased and answered your questions as follows:

- Q1. As referenced in § 178.338-2(e), what does the terminology “as a unit” mean?
- A1. “As a unit” means the entire tank.
- Q2. Does § 178.338-2(e) require all MC 338 cargo tanks constructed in accordance with Part UHT to undergo PWHT as a unit regardless of material type and thickness, even if exempted by ASME Code Section VIII, Table UHT-56?
- A2. Yes. The requirements in § 178.338-2(e) specify that each tank constructed in accordance with Part UHT must be postweld heat treated as a unit after the completion of all welds to the shell and heads. Jurisdictional requirements can supersede ASME Code requirements.

Q3. May alternative methods such as local heating methods as specified in UW-40.3.2 or UW 40-40.3.5 be used in lieu of postweld heat treating the entire tank?

A3. No. However, if you wish to use alternative methods such as local heating methods as specified in UW-40.3.2 or UW 40-40.3.5 in lieu of postweld heat treating the entire tank, you may apply for a special permit, in accordance with § 107.105.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dirk Der Kinderen".

Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

From: [INFOCNTR \(PHMSA\)](#)
To: [Baker, Yul \(PHMSA\)](#)
Cc: [Hazmat Interps](#)
Subject: Letter of Interpretation Request - FW: UHT question on 178.338-2 (e)
Date: Tuesday, January 20, 2026 11:41:21

Hi Yul,

Please see the below interpretation request.

Let us know if you need anything.

Thanks,
Janaye

From: Real, Robert <Robert.Real@chartindustries.com>
Sent: Monday, January 19, 2026 9:43 AM
To: PHMSA HM InfoCenter <PHMSAHMInfoCenter@dot.gov>
Subject: UHT question on 178.338-2 (e)

You don't often get email from robert.real@chartindustries.com. [Learn why this is important](#)

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear PHMSA Team,

I am requesting clarification on the requirements in **49 CFR §178.338-2(e)** regarding **postweld heat treatment (PWHT)** for tanks constructed under ASME Section VIII, Division 1, Part UHT.

The regulation states:

“Each tank constructed in accordance with part UHT in Section VIII of the ASME Code must be postweld heat treated as a unit after completion of all welds to the shell and heads. Other tanks must be postweld heat treated as required in Section VIII of the ASME Code. For all tanks the method must be as prescribed in the ASME Code. Welded attachments to pads may be made after postweld heat treatment.”

My questions are as follows:

1. **Scope of PWHT for UHT Tanks:**

Does this language mean that **all tanks built to ASME Part UHT must undergo full-unit PWHT**, regardless of material type and thickness, even if it would be exempted by ASME Section VIII Table UHT-56, and that this requirement is over and above what is

prescribed by ASME? Or is the intent that for tanks built to ASME Part UHT, PWHT is only required when ASME Table UHT-56 prescribes it, and when required, it must undergo full-unit PWHT.

2. **Acceptable Method:**

When PWHT is required, does the clause “as a unit” mean the only acceptable methods are ones where the entire tank is heated up at once to keep thermal gradients down like what is described in UW40.3.1 or UW 40.3.4, or are all methods described in UW40.3 acceptable as long as all weld joints receive PWHT.

- Specifically are methods that address the whole vessel in sections such as UW 40.3.5 which allows for local heating of weld joints, or 40.3.2 which allows for heating part of the vessel in an oven smaller than the vessel itself acceptable, or does the entire vessel need to be brought up to temp and cooled down uniformly as a single unit.

Understanding whether the DOT requirement is **absolute for all UHT tanks** or **conditional based on ASME material/thickness rules** is critical for design compliance.

Thank you for your assistance. Please let me know if additional details are needed.

Sincerely,

-Robert Real

Mechanical Engineer II

Chart Industries

[Robert Real](#)

Design Engineer II– Hydrogen and Road Mobiles | D&S West

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