U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, D.C. 20590

OCT 2 2 2013

Ing. Fernando Garza
Direccion Tecnica
Tytal
Cadereyta Jimenez, N.L.
Mexico

Ref. No. 13-0133

Dear Mr. Garza:

This is in response to your letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR 171-180) applicable to DOT 407 cargo tank design criteria. Specifically, you ask whether your ring stiffener design meets the circumferential reinforcement regulations prescribed in 49 CFR 178.345-7(d). The pictures you provide of your design show a 1.5 inch gap in the ring stiffeners at the six o'clock position that will be used for drainage.

The answer to your question is no. As provided by the introductory text in § 178.345-7(d), when a ring stiffener is also used as a circumferential reinforcement member, whether internal or external, reinforcement must be *continuous* around the circumference of the cargo tank shell.

I trust this information is helpful. Please contact us if you require further assistance.

Sincerely,

T. Glenn Foster

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

Stevens
§ 178.345-7(d)
Cargo Tanks
13-0133

**Drakeford, Carolyn (PHMSA)**

**From:** Supko, Ben (PHMSA)
**Sent:** Monday, June 24, 2013 7:01 AM
**To:** Drakeford, Carolyn (PHMSA)
**Subject:** FW: Ring Stiffener confirmation
**Attachments:** ensamblaje para omega 5.easm; TYTAL Ring stiffeners presentation for DOT # 2.pptx

Carolyn,

Please log as an interp.

Thank you,

Ben

**From:** Staniszewski, Stanley (PHMSA)
**Sent:** Friday, June 21, 2013 1:10 PM
**To:** Supko, Ben (PHMSA)
**Cc:** Bomgardner, Paul (FMCSA); Hardridge, John (FMCSA); Rach, Suzanne (FMCSA); Leblanc, Carole (PHMSA); Majors, Leonard (PHMSA); Toughiry, Mark (PHMSA)
**Subject:** FW: Ring Stiffener confirmation

Ben:
Can you start the formal Interp Process on this/Thanks

Paul/John/Suzanne – can you do a little digging to see if there are any pending enforcement issues here ?
Miguel stated that he isn't aware of any and that the company most likely has only been issued warnings of possible non-compliance..

We may want to meet on this sooner than later.
Another candidate issue for the CT TAG.

Thanks folks.
Stan

PHMSA
Engineering, PHH-22
202-366-0453

**From:** Martinez, Miguel (FMCSA)
**Sent:** Friday, June 21, 2013 12:43 PM
**To:** Staniszewski, Stanley (PHMSA)
**Subject:** FW: Ring Stiffener confirmation

*Miguel Martinez*
Border Inspector Supervisor

(956) 466-1835

**From:** Ing. Fernando Garza [mailto:fernando.garza@tytal.com.mx]
**Sent:** Thursday, June 20, 2013 6:37 PM
**To:** Prado, Arturo (FMCSA); luis.arrasco@tytal.com.mx; Martinez, Miguel (FMCSA); Altamirano, Jimmy (FMCSA); Rach, Suzanne (FMCSA); Williams, Tod (FMCSA)
**Cc:** paris_delangel@yahoo.com.mx; pablosea@hotmail.com; cothernstankerinspec@yahoo.com; llealtx@yahoo.com; luislauro@lmtransportaciones.com; rag@gruporalanis.com; 'Sergio martinez'; 'Enrique Proa'; Gerino Ramirez
**Subject:** RE: Ring Stiffener confirmation

Gentleman´s:

First of all allow me an apologize for delayed answer, but I´ve been out of my office most of the time.
In order to give you an explanation again over our point of view in the paragraph 178.345-7d where he mention on it " **when a ring stiffener are used as a circumferential reinforcement member, whether internal or external, reinforcement must be continuous around the circumference of the cargo tank shell and must be in accordance with the following:"**
As we can see our ring stiffener is completely around to the shell and welded on it.
If you can see in the presentation the drawing 3D & pictures that I sent before, and now I am including another pictures as well as another view of the section of ring stiffener where we can appreciate that the ring, the support (horn) and the transversal reinforcement all together made a complete ring stiffener and welded to the shell (see ASME code section UG-29 and 30 for a vacuums service). Additional I am sending a presentation in **eDrawing** (you can load from internet the software to see this presentation) where you can move and see with more clarity all the parts with their welds. Since the rule does not specify what should be in one piece, just **"must be continuous around the circumference"** we believe that we meet with all requirements of the rules.
In the other hand you mentioned that we must request **"if a formal interpretation is required"** please let me know to whom I should ask for it or call by phone.
and Mr. Prado please could you pass a copy of this email to Mr.Staniszewski I will appreciate a lot.

Truly yours.

Ing. Fernando Garza M.
Dirección Técnica
TYTAL
www.tytal.com.mx
Tel. 01 (82) 8269 - 0030 Ext. 115 * Nextel. 62*16425*8 * Cadereyta Jimenez, N.L. Mexico.

**De:** arturo.prado@dot.gov [mailto:arturo.prado@dot.gov]
**Enviado el:** miércoles, 19 de junio de 2013 10:39 a.m.
**Para:** luis.arrasco@tytal.com.mx; fernando.garza@tytal.com.mx; miguel.martinez@dot.gov; jimmy.altamirano@dot.gov; Suzanne.Rach@dot.gov; tod.williams@dot.gov
**CC:** paris_delangel@yahoo.com.mx; pablosea@hotmail.com; cothernstankerinspec@yahoo.com; llealtx@yahoo.com; luislauro@lmtransportaciones.com; rag@gruporalanis.com
**Asunto:** Ring Stiffener confirmation

Caballeros,

Aclaración del Ingeniero de PHMSA Staniszewski, Stanley, en referencia de los anillos de refuerzos y piden que si el fabricante necesita una interpretación de la anomalía existente.

Si están usando el los anillos de refuerzo como un elemento de refuerzo circunferencial (178.345 (7) (d) los efectos estructurales del tanque que tiene que cumplir la parte general del párrafo, que dice que los anillos deben ser continuos. Si el anillo tiene una brecha o una abertura de 1.5 pulgadas entonces el refuerzo no cumple con los criterios iniciales.

**From:** Rach, Suzanne (FMCSA)
**Sent:** Tuesday, June 18, 2013 1:43 PM
**To:** Staniszewski, Stanley (PHMSA); Supko, Ben (PHMSA)
**Cc:** Bomgardner, Paul (FMCSA); Majors, Leonard (PHMSA); Williams, Tod (FMCSA); Roberts, Michael (PHMSA); Williams, Tod (FMCSA); Prado, Arturo (FMCSA); Martinez, Miguel (FMCSA); Altamirano, Jimmy (FMCSA)
**Subject:** RE: Ring Stiffener confirmation

Thanks, I will forward that to the field and let them inform the manufacturer. I'll let everyone know if a formal interp is required. Again, thanks everyone.

**From:** Staniszewski, Stanley (PHMSA)
**Sent:** Tuesday, June 18, 2013 2:12 PM
**To:** Rach, Suzanne (FMCSA); Supko, Ben (PHMSA)
**Cc:** Bomgardner, Paul (FMCSA); Majors, Leonard (PHMSA)
**Subject:** RE: Ring Stiffener confirmation

That's the way I read what the regs say.

**From:** Rach, Suzanne (FMCSA)
**Sent:** Tuesday, June 18, 2013 2:04 PM
**To:** Staniszewski, Stanley (PHMSA); Supko, Ben (PHMSA)
**Cc:** Bomgardner, Paul (FMCSA); Majors, Leonard (PHMSA)
**Subject:** RE: Ring Stiffener confirmation

Then the ring stiffeners used as circumferential reinforcement needs to be continuous, but not continuously welded.

**From:** Staniszewski, Stanley (PHMSA)
**Sent:** Tuesday, June 18, 2013 1:59 PM
**To:** Supko, Ben (PHMSA); Rach, Suzanne (FMCSA)
**Cc:** Bomgardner, Paul (FMCSA); Staniszewski, Stanley (PHMSA); Majors, Leonard (PHMSA)
**Subject:** RE: Ring Stiffener confirmation
**Importance:** High

Sorry for the delayed response but a lot of other issues are taking precedence.

I'm not sure I've got the whole picture here on what is being asked

.

Bens response appears OK for addressing "venting & drainage" (for the welds & stiffener); however, If you are using the ring stiffener as a circumferential reinforcement member (178.345-7(d) for structural purposes for the tank you have to meet the general part of the paragraph, which says it must be continuous. If you have a 1.5 inch gap of the stiffener you don't meet the initial criteria.
The subparagraphs are saying that the welds don't have to be continuous as long as you meet the criteria so stated for the welds.

Stan

Stanley (Stan) Staniszewski Jr.
U.S. Department of Transportation
Pipelines and Hazardous Materials Safety Administration
East Bldg, PHH-22 Engineering
1200 New Jersey Ave., SE
Washington, DC 20590

202-366-0453
Have a complaint or question? Check our Web site at: http://www.phmsa.dot.gov/phmsa-ext/feedback/hazmatComplaintsRegsViolationsForm.jsp or call the Hazardous Materials Information Center at: 1-800-467-4922


**From:** Williams, Tod (FMCSA)
**Sent:** Tuesday, June 11, 2013 2:35 PM
**To:** Supko, Ben (PHMSA); Rach, Suzanne (FMCSA); Staniszewski, Stanley (PHMSA)
**Cc:** Bomgardner, Paul (FMCSA)
**Subject:** RE: Ring Stiffener confirmation

This is great news; I'm sure the manufacturer will be happy.

Thanks everyone!

Tod Williams, HMPS
USDOT/FMCSA
903 San Jacinto Blvd., Suite 101
Austin, TX 78701
(512)653-4357
Fax: (915)757-6379

**From:** Supko, Ben (PHMSA)
**Sent:** Tuesday, June 11, 2013 11:50 AM
**To:** Rach, Suzanne (FMCSA); Staniszewski, Stanley (PHMSA)
**Cc:** Bomgardner, Paul (FMCSA); Williams, Tod (FMCSA)
**Subject:** RE: Ring Stiffener confirmation

Susanne,

I agree with you, the manufacturer appears to be correct. The regulations allow for venting and drainage facilities in the enclosed air space of a ring stiffener (see 178.347-7(d)(4)). The HMR do not explicitly dictate the location of vented drains in a ring stiffener.

If the company would like a more letter of clarification (interp) they should send their request to:

Charles Betts
U.S. DOT
Office of Hazardous Materials Safety
1200 New Jersey Ave, SE
East Building, 2nd Floor
Washington, DC 20590

Ben

**From:** Rach, Suzanne (FMCSA)
**Sent:** Monday, June 10, 2013 8:59 AM
**To:** Supko, Ben (PHMSA); Staniszewski, Stanley (PHMSA)
**Cc:** Bomgardner, Paul (FMCSA)
**Subject:** Ring Stiffener confirmation

Hi, quick question, I believe the manufacturer is correct on this one (email from the field agent, Arturo Prado, at the bottom and DCE, Fernando Garza, response follows): CT12407, manufacture DOT 407 cargo tanks with ring stiffeners that are not continuously around the circumference (178.345-7)(d). The ring stiffeners have a 1.5 space between both ends at the six o'clock position. Company is seeking special permit/wavier process for existing cargo tanks that are already being utilize by carriers and or until manufacture gets an official interpretation whether existing cargo tanks built are acceptable as is.

But, according to 178.345-7(d)(2), its ok:
178.345-7 (d)(2) If a ring stiffener is welded to the cargo tank shell, a portion of the shell may be considered as part of the ring section for purposes of computing the ring section modulus. This portion of the shell may be used provided at least 50 percent of the total circumference of the cargo tank is welded and the length of any unwelded space on the joint does not exceed 40 times the shell thickness.

The field agent is looking for guidance, can you confirm the manufacturer is correct manufacturing DOT 407 cargo tanks with ring stiffeners needn't be continuous as long as they are at least 50 percent of the total circumference and welded to the tank wall or set me straight that they need to be?

Thank you.

**From:** Williams, Tod (FMCSA)
**Sent:** Friday, June 07, 2013 4:56 PM
**To:** Rach, Suzanne (FMCSA)
**Subject:** FW: Ring Stiffeners

Hi Suzanne: This language is a little too engineer-ese for an old country boy to understand. Can you help me?

For some background, one of our Inspectors told this CT mfr. that these tanks were not compliant with the regs cited, but then the CT rep (probably their DCE) claimed that paragraph (d)(2) of 178.345-7 says his tanks are ok. Is he correct? Did our Inspector not read far enough?

Thanks Suzanne!

Tod Williams, HMPS
USDOT/FMCSA
903 San Jacinto Blvd., Suite 101
Austin, TX 78701
(512)653-4357
Fax: (915)757-6379

**From:** Ing. Fernando Garza [mailto:fernando.garza@tytal.com.mx]
**Sent:** Thursday, June 06, 2013 5:20 PM
**To:** Roberts, Michael (PHMSA); Williams, Tod (FMCSA); Prado, Arturo (FMCSA); Martinez, Miguel (FMCSA); Altamirano, Jimmy (FMCSA)

**Cc:** luis.arrasco@tytal.com.mx; cothernstankerinspec@yahoo.com; 'Sergio martinez'
**Subject:** RE: Ring Stiffeners

Dear Messrs.':

First of all, thank you for your prompt response.
Our visit to DOT office in Brownsville was to see if Mr. Prado or somebody else can clarify us our interpretation of this particular section on the 49 CFR 178.345-7 because as he says; over there mention that **" Must be continuous around the circumference"** but also says **" it Must be in accordance with the following: "**
and if we understand in the paragraph (2) where mentioning
**" If a ring stiffener is welded to the cargo tank shell, a portion of the shell may be considered as part of the ring section for purposes of computing the ring section modulus. This portion of the shell may be used provided at least 50 percent of the total circumference of the cargo tank is welded and the length of any un welded space on the joint does not exceed 40 times the shell thickness."**
According with this, and looking to full fill all structural considerations and operation, we let a little gap for drainage since no specifies any special shape, however we still considered that meet with the requirements
After all this comments if you considered that we must to look for another opinion from PHMSA or proceed to submit the request of the Permit/wavier please let me know.

Regards.

Ing. Fernando Garza M.
Dirección Técnica
TYTAL
www.tytal.com.mx
Tel. 01 (82) 8269 - 0030 Ext. 115 * Nextel 62*16425*8 * Cadereyta Jimenez, N.L. Mexico.

**De:** michael.l.roberts@dot.gov [mailto:michael.l.roberts@dot.gov]
**Enviado el:** miércoles, 05 de junio de 2013 04:19 p.m.
**Para:** tod.williams@dot.gov; arturo.prado@dot.gov; miguel.martinez@dot.gov; jimmy.altamirano@dot.gov
**CC:** luis.arrasco@tytal.com.mx; fernando.garza@tytal.com.mx; cothernstankerinspec@yahoo.com
**Asunto:** Re: Ring Stiffeners

He needs to apply for a party status to the SP already in effect

**From**: Williams, Tod (FMCSA)
**Sent**: Wednesday, June 05, 2013 05:17 PM Eastern Standard Time
**To**: Prado, Arturo (FMCSA); Martinez, Miguel (FMCSA); Altamirano, Jimmy (FMCSA); Roberts, Michael (PHMSA)
**Cc**: luis.arrasco@tytal.com.mx <luis.arrasco@tytal.com.mx>; fernando.garza@tytal.com.mx <fernando.garza@tytal.com.mx>; cothernstankerinspec@yahoo.com <cothernstankerinspec@yahoo.com>
**Subject**: RE: Ring Stiffeners

The process for applying to PHMSA for a Special Permit is set forth in 49 CFR 107.101-127. Instructions on obtaining guidance and interpretations from PHMSA is set forth in 49 CFR 105.20

Tod Williams, HMPS
USDOT/FMCSA
903 San Jacinto Blvd., Suite 101
Austin, TX 78701
(512)653-4357
Fax: (915)757-6379

**From:** Prado, Arturo (FMCSA)
**Sent:** Wednesday, June 05, 2013 2:16 PM
**To:** Williams, Tod (FMCSA); Martinez, Miguel (FMCSA); Altamirano, Jimmy (FMCSA); Roberts, Michael (PHMSA)
**Cc:** luis.arrasco@tytal.com.mx; fernando.garza@tytal.com.mx; cothernstankerinspec@yahoo.com
**Subject:** Ring Stiffeners

Tod,

Cargo tank manufacture Tytal reference CT12407, manufactured DOT 407 cargo tanks with ring stiffeners that are not continuously around the circumference (178.345-7)(d). The ring stiffeners have a 1.5 space between both ends at the six o'clock position. Company is seeking special permit/wavier process for existing cargo tanks that are already being utilize by carriers and or until manufacture gets an official interpretation whether existing cargo tanks builted are acceptable as is. I need your assistance in finding a POC to place this manufacture in contact with. I have attached PHMSA website for carrier to submit their anomaly, except I am not sure if this the correct step or site.

**§178.345-7 Circumferential reinforcements.**

(d) When a ring stiffener is used as a circumferential reinforcement member, whether internal or external, reinforcement must be continuous around the circumference of the cargo tank shell and must be in accordance with the following:

Arturo A. Prado
Motor Carrier Safety Specialist
RGV Operations Center, Texas Division
(956) 504-2652 ext 231