

ITW Devcon Futura has outlined below the points that we think should be made in describing polyurea as it relates to the UL 1746 standard. The supporting documents will be included the ballot package sent out to STP 58 members.

From the concerns expressed by certain members [regulatory types] at our meeting in Chicago, it is our opinion that we need to emphasize the following topics:

[a] **The positive performance aspects of polyurea versus HDPE.** The member concerns were based on the actual and perceived weaknesses of HDPE. This is primarily Total Containment [TCI] tank experience since 1986 thru present. There is only one TCI manufacturer in North America [Mexico]. At one time in the late 80's to early 90's, there were over 25 TCI mfrs in North America. The TCI tanks were notorious for bulging jackets, split seams and very easily punctured. This normally occurred in warm to hot ambient temps. Onsite repairs were unreliable and costly. Numerous lawsuits between mfrs and owners occurred.

TCI is out of business and no website. The only TCI tank link is O'Day who once made them.

http://www.odayequipment.com/StorageTanks/tank_total.html

We have also linked a legal and regulatory descriptions in the industry involving TCI pipe. Many of the pipe defective characteristics were the same as the tank jacket. The regulators and other STP members, in **our** opinion are connecting the bad performance of HDPE with the expected same performance for polyurea. Polyurea should not be connected with the problems exhibited with HDPE! Polyurea is a completely different type of process & should positively be separated from HDPE performance.

<http://caselaw.lp.findlaw.com/cgi-bin/getcase.pl?court=Fed&navby=case&no=021497>

http://www.mde.state.md.us/Programs/LandPrograms/Oil_Control/USThome/thermoplastic%20guidance.asp

The other tank is the Titan tank which is made by Highland Tank. Very few of those tanks have been installed since 1998.

<http://www.highlandtank.com/Products.asp?ProdID=TITAN>

http://www.highlandtank.com/Lit/HT_TITAN_Tanks.pdf

[b] **Polyurea toughness and seamless design:** The polyurea jacket is seamless and encapsulate the steel inner tank. The Part III, Jacketed Assembly Tests, including the more severe knuckle impact test requirement, validates the durability and toughness of the polyurea jacket. Some members have a perception that polyurea will breakdown just like the TCI HDPE Tank and Pipe which has been proven to be untrue.

[c] **Polyurea Jacketed 10,000 Gal. Tank Prototype Test Project:** In September 2000 Hall Tank conducted a 10 month test of a jacketed tank. The test tank was exposed to the aboveground outdoor environment for over the 10 month period & extensively tested during that time. The polyurea jacketed tank at the conclusion of the test could still maintain an interstitial vacuum per 1746, para 20.6.3 [13"hg].

[d] **Polyurea Comparison to Polyurethane** We need to separate positively the toughness and durability of polyurea hybrids from the original polyurethane which is a listed material for Coated Tanks, Part IV. It is clearly evident that the superior toughness and durability of polyurea is without question demonstrated by the testing & the technology that has been presented.

[e] **Futura In-House Testing:** Futura successfully completed the liquid exposure tests required in Part III on the Ura-Shield 2000 & is ready to proceed to take the product to the market place.

[f] **UL Approval to Test:** Futura Coatings received a proposal from UL dated Sept 15, 2000 to perform testing as required per UL 1746, Part III, Jacketed Tanks for the Ura-Shield 2000 polyurea material. Due to a change in ownership of Futura, management decided not to proceed with the UL test project. However, Futura had the full support of UL to test and List a polyurea jacketed tank. Since then ITW Devcon purchased Futura & is now continuing the approval process.

The ironic and frustrating fact is that the EPA and the States have never taken action to ban TCI tanks. The regulators have not sent any proposals to UL to remove or revise HDPE tank jackets in 1746. Yet, the regulators seem to not accept new technologies that could be tested by UL.

[Attachment: Product Data Sheet Ura-Shield 2000.](#) [This attachment was separately attached to the list of documentation in CSDS. The file name is Ura-Shield-2000.]

Feel free to call & discuss this at any time in our efforts to get this proposal accepted by the committee members.

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