



# TECHNICAL BULLETIN

No. 1104

**DATE:** November 4, 2004

**TO:** All Arnco Certified Applicators

**FROM:** John G. Mobley, General Manager

**SUBJECT: USE OF COOLING METHODS TO PROTECT INTERNAL PLASTIC COATING**

Arnco Technology has conducted a series of tests to determine if it is advisable to use cooling methods during the preheat and application of Arnco hardbanding products. The results of these tests have conclusively determined that it is detrimental to the integrity of the heat affected zone (HAZ) of the parent metal to use either water, a wet sponge or even compressed air during the preheat or application phase. The reasons for this are two-fold; first, a soak type preheat that is required for a quality application cannot be achieved and maintained and, two, such a rapid cooling from the internal surface of the parent metal will result in a severely increased hardness in the HAZ, which, in turn, will create a brittle HAZ, therefore resulting in a very high risk of failure.

Please be advised that this is not a limitation of Arnco hardbandings, but rather a function of basic welding adopted by the American Welding Society and other worldwide organizations.

Therefore it is strongly recommended by Arnco Technology that these cooling methods not be utilized during the application of Arnco hardbanding products. If the applicator chooses to do so, it is with the understanding that Arnco Technology will not support any claims should a problem occur during use of the pipe. An examination of the microstructure will reveal such utilization and will be rejected by Arnco Technology.

If you have any questions or if you would like a copy of this study, please contact Arnco Technology and we will be happy to provide you with a copy or answer any of your questions.

Thank you,

A handwritten signature in black ink, appearing to read "J. Mobley", is written over a faint, illegible printed name.

John G. Mobley  
General Manager

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