

Design Changes Rationale

Feb 24 th 2005	A request from Darlington Memorial Hospital for Service Information on the Tom Thumb Units
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Customer: Steve Smith, Medical Engineering – Darlington Memorial Hospital

Request: Part numbers and prices for replacement parts, together with all available service information, as they are servicing their own units.

March 22 nd 2005	Their Information, garnered from their use of the Viamed Service Manual, was that the Loctite 242 currently used is not Oxygen Compatible. Also informed by Darlington that they have informed the MHRA of this incompatible adhesive and are waiting for any feedback from them before proceeding.
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March 24 th 2005	A copy of the Material Safety Data Sheet from Loctite verified this information, and has now prompted a review by Viamed, of current available adhesives.
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Action: Viamed have searched all known databases for an equivalent adhesive to the Loctite 242, but for one that is compatible with a gaseous environment. So far such companies as Loctite, Rocol etc are stating that there is no such product in the market place.

Design: There is no need to re-design any aspect of the Tom Thumb Unit. Viamed have found an equivalent adhesive that is appropriate for use in a gaseous environment (Permabond MH052). This adhesive is not a “Cyanoacrylate” but is in fact a Pipe Sealant. From all applicable information it is the correct adhesive with the same strength and resistance as the Loctite 242.

April 4 th 2005	A sample of the sealant has been supplied, by the supplier (Permabond), for Viamed to test and evaluate. An activator has also been supplied for use when the solution is transferred to a delivery medium such as a Syringe.
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Feasibility: One Valve has been tested with the Permabond MH052, the valve was left for three hours to attain a working strength. When unscrewed with the correct tooling the seal exhibited the same strength as that which has been found with the Loctite 242. The valve was re-sealed with the Permabond MH0-52 and left for 24 hours to attain full strength of bond. When unscrewed with the correct tooling the seal exhibited a greater strength to that which has been found with the Loctite 242.

Conclusion: The adhesive sealant will now be tested on the next batch of valves to be built. If the application is successful, then the new sealant will become a permanent change to the Tom Thumb Valves parts and build.