Tapecoat Fusion-Weld™ Field Joint Protection System

Matching the robustness of the two and three layer extruded polyethylene (PE) and polypropylene (PP) pipe coatings on field joints is no longer a problem with Tapecoat’s new Fusion-Weld System (FW). This system utilizes a thick PE or PP thermoplastic jacket that is “Fused” to the pipe coating.

The system originated in Houston, Texas by Mr. Dick Wyke of the Floatec Corporation in mid 80’s and patented in May of 2000. In 1999, Kip Bennett of the Tapecoat Company commenced design improvements to make the system useable in field conditions and with contractor personnel. The system has now been used on projects in Indonesia, Malaysia and the USA. The field ready improvements continue, once completed we expect it to dominate worldwide applications on polyethylene and polypropylene coated pipe.

The Fusion-Weld is unique in its design since it avoids trying to achieve a strong bond with the use of adhesives. Its thermoplastic jacket is actually fused with the thermoplastic coating on the pipe. The innovation aspect of the system is the actual fusing of the plastic jacket to the plastic coating on the pipe via a conductive wire mesh. The Fusion-Weld replaces tapes and shrink sleeves that do not bond sufficiently to thermoplastics.

Operation: The thermoplastic jacket is wrapped over the pipe joint where a corrosion protection coating has already been installed over the bare metal of the girth weld. The jacket overlaps onto the extruded PE or PP coating on both sides of the cutback, thus encapsulating the pipe joint. The fusion process is obtained by an Electro-clamp that wraps around the thermoplastic jacket and delivers a current from the automated Control Box. Fusion takes less than 130 seconds.

After cooling approximately 25 seconds, the Electro-clamp is then removed exposing an almost indestructible plastic armored pipe joint coating. The corrosion protection coating under the Tapecoat Fusion-Weld Jacket is untouched and mechanically protected. The system is available for any pipe diameter or cutback width.