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Sub: Construction Management System: Circular-20

Ref: Precautions for Laying & Jointing HDPE, for achieving watertight Joint while fixing of Saddle/ ferrule during execution & operation period.

It has been observed that at time of execution proper care is not being taken up while Laying & Jointing of pipe line for continuous pressurized water supply. Therefore, there is a need to take care of following precautions to ensure the proper Laying & Jointing of HDPE pipes to achieve watertight Joints & fixing of Saddle/ ferrule during execution:

1. 100% - Hydro-testing and Jointing of pipe line work must be ensured in presence of PIU/PMDSC/Contractor, Engineer/Representative and at least 30 % hydro-test must be witnessed by ACM/SE/EE as per norms records should be signed by them.
2. At the location of Pipe joint, width of trench should be sufficient i.e. minimum (D+300 mm) so that Fitter/plumbers can easily work on Electro-Fusion Joints or saddles must be electro fused & ferrules & communication HDPE pipes should be joined on ground & tested with working pressure on the ground before lowering in the trench.
3. Electro fusion jointing of HDPE pipe work should be executed by only by skilled & trained plumber and automatic bar code enabled equipment and with jointing record should be kept & must be available for verification.
4. It is noticed that if accuracy in timing of heating for jointing under 40 V current and cooling timing are not maintained than there is every probability of failure of joint and which will affect the losses/NRW results.
5. To ensure proper monitoring of each joint contractor & supervisory agency should maintain register for each joint with geographical coordinates & node details as per approved drawing duly verified by PIU (AE/JE)/ PMDSC/ Contractor Engineer (with name).
6. Details of various dia of PE-100 pipe with time of fusion jointing & cooling & voltage & current shall be as per shown in fitting form or as per barcode.

Fixing of Saddle/ ferrule

1. Saddle & ferrule should be compatible with each other.
2. Every saddle & its ferrule should be checked for the leakage (commutability) before fusion welding with the main pipe. Some time it is observed that due to excessive tightening of ferrule the saddle gets cracked hence torque limiting spanner should be used for ferrule tightening.
3. Good quality of Teflon tape should be used for jointing ferrule & saddle.

4. The HDPE house service connections pipe should be buried at least 300-450 mm below the surface of road.
5. HDPE house service connection pipe should be plugged with G I pipe nipple or any suitable method before hydrotesting at 9 kg/cm².
6. Distribution HDPE pipe & house service connection pipe should be tested for 9 Kg/cm² as per contractual testing procedure before the pipes are buried if condition permits.
7. In case of T joints of inter connections & gap closing joints alignment of pipes should be ensured as it is cause of leakage.

All Joint hydrotests should be conducted in presence of PIU/PMDSC/Contractor Engineer.

This circular shall be strictly abided by PIUs, Consultants and Contractors.


(Dr. Hemant Kumar Sharma)
Addl. Project Director

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Copy to following for information and necessary action:

1. PA to PD/Addl. PD/ FA/ CE/ ACE/SEs/POs/APOs, PMU, RUIDP, Jaipur
2. SE, PIU, Pali/Tonk/Sriganaganagar/Jhunjhunu/Bhilwara/Hanumangarh/Kota/Ratangarh/ Sirohi/ Kuchaman/ Banswara
3. EE, PIU, Sawai Madhopur/ Bikaner/ Udaipur/ Jhalawar/ Mt. Abu/Banswara/ Mandawa
4. Team Leader/ CM/ Dy. CM/ACM, PMDSC/ PSC/PMCBC/CMSC-1/CMSC-2, Jaipur/Jodhpur/ Pali/ Tonk/ Sriganaganagar/ Jhunjhunu/ Bhilwara/ Hanumangarh/ Kota/ Sawai Madhopur/ Bikaner/ Udaipur/ Jhalawar/ Mt. Abu/ Banswara/ Ratangarh/ Sirohi/ Kuchaman/ Banswara/ Khetri/ Mandawa
5. ACP, RUIDP, Jaipur to send by e-mail and put up the Guidelines on the website.


Dy. PD(T) & ACE