

FABRICATION DIVISION
Welding Development & Technology

P.I No.

Date: 09-10-2020

Technical Specification No: FBM/WD&T/TS01 Rev 04

Technical Specification for Neutral Fused Flux F7A2-EM12K

S. No	Description	Requirement	Vendor to Furnish/confirm	Offered	Deviation	Remarks
1	Scope	This specification prescribes requirements for Neutral Fused Flux for Submerged Arc Welding of Carbon steels materials.	Vendor to Confirm			
1.1	F7A2-EM12K	As per SFA 5.17 of ASME Sec IIC Ed 2019	Vendor to Confirm			
1.2	Flux Type	Neutral Fused flux				
1.3	Weight of packet	25 kgs to 50 Kgs				
1.4	Flux Form and particle size	As per SFA 5.17 Clause 17.1 of ASME Sec IIC Ed 2019				
1.5	Usability	As per SFA 5.17 Clause 17.2 of ASME Sec IIC Ed 2019				
1.6	Packaging	As per SFA 5.17 Clause 17.3 of ASME Sec IIC Ed 2019				
1.7	Marking of packages	As per SFA 5.17 Clause 17.4 of ASME Sec IIC Ed 2019				
1.8	Particle Size	Vendor to specify mesh size of the flux.	OCM to specify			
1.9	Storage and Drying condition	All details regarding storage, drying condition and shelf life.	OCM to specify			
2	Tests Required for Flux Quoted					
2.1	*Radiographic test	As per SFA 5.17 of ASME Sec IIC Ed 2019	Standard Catalogue / Test Certificate to be provided by OCM			
2.2	*Tensile test	As per SFA 5.17 of ASME Sec IIC Ed 2019				
2.3	*Impact test (Charpy): 5 Samples at -20 °F on 2 mm V-notch	Average of three samples (Discarding Highest and lowest values): 27 J min. Two of the values used for computing average shall $\geq$ 27 J Single Value (Min): 20 J				
2.4	* The test mentioned at clause 2.1 to 2.3 shall be done in as-welded condition with EM12K wire available with BHEL.		OCM to Confirm			

S. No	Description	Requirement	Vendor to Furnish/confirm	Offered	Deviation	Remarks
2.5	BHEL reserves the right to call free sample (on a non-returnable basis) of minimum 25 kgs for further technical evaluation. The test results of BHEL will be final. Vendor to submit samples within 7 days after intimation by BHEL. The following characteristics will be checked along with tests required as per S. No. 2 : a) Finish and Uniformity of weld bead b) Slag Removal c) Porosity and undercut d) No smoke The parameters for welding will be as follows: Current: 350-500 A Voltage: 30 - 36 V Electrode extension: 25 ± 6 mm Travel speed: 250 - 450 mm/min **The vendor can recommend the welding parameters for better results. Note: The above clause is not applicable for those brands whose flux has been satisfactorily tested and satisfactorily used in BHEL Bhopal for submerged arc welding application. Such vendors are required to provide documents containing details of flux previously provided to BHEL Bhopal along with offer.		OCM to Confirm			
3	Authorization and Correspondence: In case, authorized vendor quotes for the tender, then the following must be met: 1. Vendor to provide authorized dealer certificate valid for atleast 1 year, and the OCM to take guarantee of the product quoted, failing this the offer will be rejected. 2. All Technical correspondence and confirmation shall be done with their principal supplier (OCM). Contact details of OCM to be provided with the offer. 3. All liability shall be of principal in the event of default by the authorized agent/dealer. 4. All correspondence and documents including test certificate shall be in english language. 5. If any document provided by vendor is in language other than english, it must be supported with valid english translation.		Vendor to Confirm			

Legends : 1. OCM- Original Consumable Manufacturer