

Sl. No.	Nomenclature & Drawing No.	Manufacturing Technology & Testing /Inspection Facilities required to produce the item		Must be possessed by the vendor in his own premises (List of Plant & Machinery and Testing/Inspection facility to be submitted)	COMPLIANCE	Must be possessed by the vendor in his own premises (or) may be out sourced. (Name and Address of sub-contractor, list of Plant & Machinery and Testing / Inspection facility to be submitted).	COMPLIANCE
1	HULL BOTTOM FRONT PLATE Drg.No. 172.01.009-15 LF.No. 6201001031	Technology 1	RAW MATERIAL			Under taking by Vendor that vendor will procure Raw material from SAIL (Who is the approved source of Raw material for HVF as of now) or any other source approved by HVF in future or Russia OEM with suitable documents proof required.	
2	BOTTOM PLATE FRONT Drg.No. 172.01.009-9 LF.No. 6206801680						
3	FLOOR PLATE MIDDLE Drg.No . 172.01.010-2 LF.No. 6206801111						
4	MIDDLE PLATE OF HULL BOTTOM Drg.No. 172.01.010-8 LF.No. 6201001032						
5	REAR PLATE OF HULL BOTTOM Drg.No. 172.01.011-5 LF.No. 6201201136						

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Technology 2	GAS CUTTING			CNC Gas Cutting Machine:- Capacity to cut 20 mm thick plate.	
Technology 3	HEATING FOR FORMING AND HARDENING	Gas Fired Chamber Furnace : 3000X5500 MM , Loading temperature in furnace : 900-1000°C Heating temperature : 900-980 °C Heating time : 20-40 minutes. Holding time : 40-70 minutes with facilities:- Rotary loading unit 7T , Over Head Crane 10T & Water bath.			
Technology 4	FORMING	Hydraulic Press - 10000 T Pressing Force 7500-10000T Holding time 10-15 seconds. Transfer time of blank from furnace till complete dipping in water Max. 4 minutes. Cooling time in water Min.1.5 minutes Water temperature 20-40°C Straightening Hydraulic Press 400T.			

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Technology 5	HIGH TEMPERING	Gas Fired Chamber Furnace : 3000X5500 MM Loading temperature in furnace : 570-620°C Heating temperature : 580-620 °C Heating time : 1.0 -1.50 Hrs Holding time : 1.0 -1.50 Hrs Transfer time Max.4 minutes, Cooling time in water Minimum 2 minutes water temperature 20 - 60 °C with facilities:- Rotary loading unit 7T, Over Head Crane 10T & mechanized bath.			
Technology 6	SURFACE TREATMENT			Shot Blasting Machine	
Technology 7	MILLING			Vertical Milling Center	
Technology 8	TESTING	Surface Table for inspection, Measuring instruments, profile/receiver gauges. Portable / Universal Hardness testing equipments.			

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1	SHEET STREN BOTTOM Drg.No. 175.01.007-4 LF No.6206801291	Technology 1	RAW MATERIAL			Under taking by Vendor that vendor will procure Raw material from SAIL (Who is the approved source of Raw material for HVF as of now) or any other source approved by HVF in future or Russia OEM with suitable documents proof required.	
2	HULL REAR LOWER PLATE Drg.No. 175.01.007-5 LF No.6201201126			Technology 2	GAS CUTTING		
		Technology 3	BENDING	Bending in cold condition Load under closed die : 3500T Holding time in die: 5-10 sec Straightening Hydraulic Press 400T.			

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Technology 4	HARDENING	Gas Fired Chamber Furnace : 3000X5500 MM Loading temperature in furnace : 860-950°C Heating temperature : 880-950 °C Heating time : 40-60 minutes. Holding time : 45-75 minutes Transfer time . Max.4 Minutes Cooling time in water: 6-8 Minutes Temperature of water: 30-45°C with facilities:- Quenching press 1600 T Rotary loading unit 7T , Over Head Crane 10T			
Technology 5	HIGH TEMPERATURE TEMPERING	Gas Fired Chamber Furnace : 3000X5500 MM Loading temperature in furnace : 570-640°C Heating temperature : 570-640 °C Heating time : 60-90 minutes. Holding time : 60-90 minutes Transfer time . Max.4 Minutes Cooling time in water: 3-5 Minutes Temperature of water: 30-45°C with facilities:- Quenching press 1600 T Rotary loading unit 7T , Over Head Crane 10T			
Technology 6	SURFACE TREATMENT			Shot Blasting Machine	
Technology 7	TESTING	Surface Table for inspection, Measuring instruments, profile/receiver gauges. Portable / Universal Hardness testing equipments.			