



VM-110 HHW MS

a VAM Drilling Sour Service solution for Hydroclean™



“Sour Service” refers to a well environment containing Hydrogen Sulfide (H₂S), which is hazardous to human health and could impact on heavy-weight drill pipe steel performance. VAM Drilling has developed proprietary grades conforming to industry standards and maximizing safety and performance for sour drilling.

VM-110 HHW MS is our proprietary grade for Hydroclean heavy weight drill pipe in mild sour environments.

► Product Added Value

A specific steel chemistry: ERS 425™

Grade	%	C	Si	Mn	P	S	Cr	Mo	Al
VM-110 HHW MS	Average	0.40	0.28	0.83	0.006	0.002	1.3	0.65	0.025

Controlled heat treatment

VM-110 HHW MS is manufactured using solid bar material. Bars are heated to a suitable austenitizing temperature, followed by quenching to achieve a martensitic structure. After quenching, bars are tempered at a minimum of 1200°F (650°C). This heat treatment provides homogeneous properties and a fine grain microstructure ensuring an excellent resistance to Sulfide Stress Cracking (SSC).

► VM-110 HHW MS Specification

VM-110 HHW MS is well adapted to mild sour environments, where materials are subjected to low level of corrosion due to H₂S. Thanks to its special chemistry, **VM-110 HHW MS** is more resistant than standard Hydroclean grades of HWDP:

ERS425 material can withstand a stress 75% higher than standard grade material under NACE TM0177 Method A Solution A.

Technical Name		VM-110 HHW MS
Sour Domain		Mild Sour
Tool Joint	Yield Strength	110,000 psi - 125,000 psi
	Minimum Ultimate Tensile Strength	140,000 psi
	Controlled Maximum Hardness	36 HRC
	Charpy impact Min. Average @ 75°F	48 ft-lbs
	Material Type	ERS 425
	NACE Test	None

VM-110 HHW MS is manufactured from solid bar material which means that mechanical properties are the same for the tube and tool-joint.

VAM Drilling can propose a field procedure dedicated to your Sour Service needs. This procedure describes the precautions to be taken before, during and after running Sour Service drill pipe in order to evaluate your pipes' performance in real conditions.

