



VM-110 PUP S

a VAM Drilling Sour Service solution for Pup Joints

“Sour Service” refers to a well environment containing Hydrogen Sulfide (H₂S), which is hazardous to human health and could significantly impact drill pipe steel performance.

VAM Drilling has developed proprietary Sour Service grades conforming to industry standards and maximizing safety and performance for sour drilling. **VM-110 PUP S** is our proprietary grade for pup joints in sour environments.

► Product Added Value

Specific steel chemistry: ERS 425™

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

Controlled heat treatment

VM-110 PUP S is manufactured using solid bar. 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 PUP S Specification

Technical Name	VM-110 PUP S
Sour Domain	Intermediate Sour
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 Guaranteed @ 45% SMYS

VM-110 PUP S is well adapted to mild sour and intermediate sour environments.

VM-110 PUP S characteristics are more restricted than API grades and give higher safety margins thanks to stronger H₂S resistance: ERS 425 material can withstand a stress 75% higher than standard grade material under NACE TM0177 Method A Solution A.

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.

