

## VDM® FM C-276

N10276 (UNS) · 2.4886 (Material No.)



VDM® FM C-276 is a nickel-chromium-molybdenum filler material with a low carbon content for seam welding homogeneous alloys in wet corrosion applications. It is widely used in the chemical industry and environmental technologies.

### Designations & standards

ISO 18274	S Ni 6276, NiCr15Mo16Fe6W4
AWS A5.14	ERNiCrMo-4, ABS
VdTÜV	Data sheet no. 05582, 05583

### Typical chemical composition, values in %

Ni	Cr	Mo	Fe	W	Mn	V	C
Bal.	16	16.5	6	3.5	0.5	0.2	< 0.01

### Mechanical properties at ambient temperature

Yield strength $R_{p0.2}$ (MPa) (Ksi) (Ksi)	Tensile strength $R_m$ (MPa) (Ksi) (Ksi)	Elongation $A_5$ (%)	ISO V-notch impact strength (J) (ft-lbs)
> 450 (> 65.3)	> 750 (> 109)	> 30	> 90 (> 66.4)

### Applications

Filler metal for welding VDM® Alloy C-276 and for mixed joints with suitable high- and low-alloy steels. Due to excellent corrosion properties suitable for clad welding on carbon steel. The material VDM® FM C-276 can also be used for submerged arc welding in the field of liquefied natural gas (LNG).

### Special notes for the welding process

A low heat input and fast heat removal must be ensured. The interpass temperature should not exceed 120 °C (248 °F). When using the gas-shielded metal-arc process, pulsed welding is the preferable method. No preheating or reheating is required to achieve the weld metal properties.

### Example welding processes and parameters for homogeneous seam welding in Position 1G

Welding process as per ISO 4063	Shielding gas as per ISO 14175	Welding parameters		
		U (V)	I (A)	V (cm/min) (in/min)
<b>m-TIG</b> 141, 145	l1, R1 max. 3 % H <sub>2</sub>	10–11	90–120	10–15 3.94–5.91
<i>Comment</i>	<i>Root welding at 110 A</i>			
<b>v-TIG</b> 141, 145	l1, R1 max. 3 % H <sub>2</sub>	11–12	≈ 150	≈ 25 ≈ 9.84
<b>v-TIG HW</b> 141 H, 145 H	l1, R1 max. 3 % H <sub>2</sub>	10–12	180–250	40–80 15.7–31.5
<b>MSGp</b> (MIG/MAG) 131, 135	l1, R1 max. 3 % H <sub>2</sub>	23–27	130–150	20–30 7.87–11.8
<i>Comment</i>	<i>from approx. 8 mm (0.315 in) work piece thickness</i>			
<b>Plasma (PAW)</b> 15	l1, R1 max. 3 % H <sub>2</sub>	≈ 25	165–200	≈ 25 ≈ 9.84
<i>Comment</i>	<i>up to approx. 8 mm (0.315 in) work piece thickness</i>			