



FERTILIZER PROCESS PRODUCTS

SYNGAS

AMMONIA

UREA

NITRATES

NITRIC ACID

MELAMINE

Across the complete production process of nitrogen and phosphate based fertilizers, melamine, nitric acid and syngas our range of DMV grades offer solutions to the most challenging of corrosive environments.

Instrumentation tube for controlling and monitoring temperature and pressure; Heat exchanger tubes for heat transfer between different corrosive process environments. Pipes for process production.

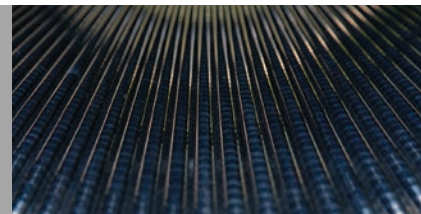
Products and Solutions



Austenitic Stainless

Heat Exchanger tubes

Up to 43 m long (110 ft) straight or 'U' bent carbonate condensers, scrubbers, strippers.



Duplex

Pipe

1/8" NB to 10" NB (10.3 mm to 273.0 mm) DN 3 to DN 250



Nickel Alloys

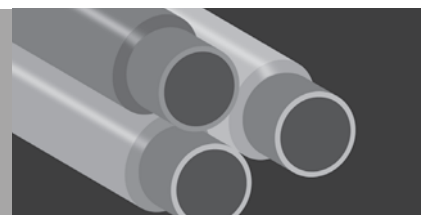
Instrumentation Tubes

6 mm (1/4") to 25 mm (1") outside diameter.

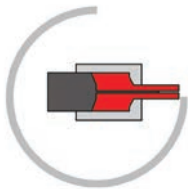


Bimetallic

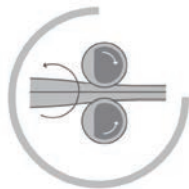
Inside DMV 702 minimum thickness 0.7 mm
Outside DMV 25.22.2 minimum thickness 2 mm
Cold Drawn



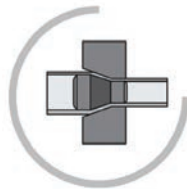
Global Manufacturing, Local Service



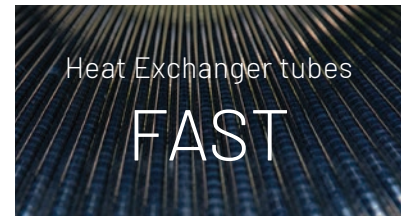
HOT EXTRUSION



COLD PILGERING



COLD DRAWING

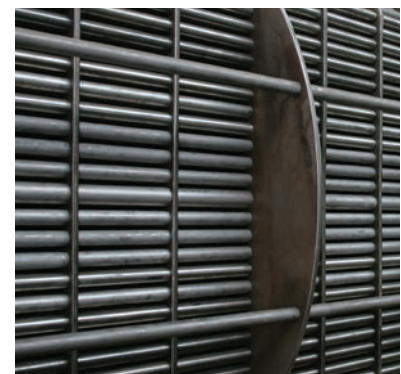


Supporting requirements for urgent tube replacement- breakdowns, unplanned outages we offer our FAST HX product across a range of defined sizes and sizes.

In addition, we maintain raw material stocks to support urgent requirements for Nickel alloys such as DMV C276 and DMV 625.

Contact us via your usual Sales contact or at hx@dmvtubes.com

For more details visit: dmvtubes.com



UREA: CARBAMIDE: $\text{CO}(\text{NH}_2)_2$ the basis for today's production of nitrogen release fertilizer. Urea is produced from synthetic ammonia (NH_3) and carbon dioxide CO_2 with the first step being conversion to liquid ammonium carbamate ($\text{NH}_2\text{COONH}_4$) in a reactor under pressure at 150-200 bar and 180-190°C.

Second step is conversion of the ammonium carbamate to Urea, ie:

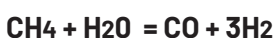


Ammonium carbamate solutions are highly corrosive in the hottest parts of the plant such as condensers, scrubbers and strippers.

Ammonium carbamate solutions are processed into condensates from the stripper with highly corrosive process environments around 180-250°C and 150 bar.

Conventional austenitic stainless steels such as 304L and 316L are unable to withstand such environments leading to the development of DMV Grades suitable for applications across the production process.

SYNGAS: (or Synthesis Gas) is a mixture of hydrogen and carbon monoxide with principle use in the production of ammonia (NH_3) or methanol (CH_3OH). Syngas is produced by steam reforming or partial oxidation of natural gas or liquid hydrocarbons.



Syngas is used a source of H_2 and in the direct reduction of iron ore to sponge iron.

NITRIC ACID (HNO_3): is used a primary reagent for the nitration process with its main industrial use being the production of fertilizers where nitric acid is neutralised with ammonia to ammonium nitrate. (NH_4NO_3).

GRADES & CAPABILITIES: FERTILIZER

Austenitic																
DMV Designation	Nearest equivalent			Typical Chemical composition						Density		Min. Mechanical Prop. at RT				
	UNS	EN	JIS	C _{max}	Cr	Ni	Mo	Cu	Others			Yield St. _{RP0.2}		Tensile St. _{R_m}		
										g/cm ³	lb/in ³	MPa	ksi	MPa	ksi	
DMV 304L	S30403	1.4306	SU 304L	0.03	19.0	11.0					7.9	0.29	170	25	485	70
DMV 316LUG	S31603	1.4435		0.02	17.0	13.5	4.5				8.0	0.29	170	25	485	70
DMV 306Si	S30600	1.4361		0.015	18.0	15.0			Si 4		7.9	0.29	240	35	540	78
DMV 4439	(S31726)	1.4439		0.03	17.5	13.5	4.5		N 0.16		8.0	0.29	240	35	550	80
DMV 4335	S31002	1.4435		0.015	25.0	20.5			N < 0.10 %		7.9	0.29	255	37	540	78
DMV 25.22.2	S31050	1.4466		0.02	25.0	22.0	2.0		N 0.12		7.9	0.29	255	37	540	78
DMV 310S	S31008	1.4845		0.015	25.0	21.0					7.9	0.29	205	30	515	75
DMV 904		1.4539		0.02	20.5	25.5	4.5	1.5			8.0	0.29	215	31	490	71

Austenitic Ferritic																
DMV Designation	Nearest equivalent			Typical Chemical composition						Density		Min. Mechanical Prop. at RT				
	UNS	EN	JIS	C _{max}	Cr	Ni	Mo	Cu	Others			Yield St. _{RP0.2}		Tensile St. _{R_m}		
										g/cm ³	lb/in ³	MPa	ksi	MPa	ksi	
DMV 22.5	S31803	1.4462		0.03	22.0	5.5	3.0	0.5	N 0.17 ²⁾		7.8	0.28	450	65	620	90
DMV 25.7N	S32760	1.4501		0.03	25.0	7.0	4.0	0.25	N 0.25; W 0.5 ²⁾		7.8	0.28	550	80	750	109
DMV 25.7NS	S32750	1.4410		0.03	25.5	7.0	4.0	<0.80	N 0.3 ²⁾		7.8	0.28	550	80	750	109
DMV 29.7	S32906	1.4477		0.03	29	7	2.3		N 0.35 ²⁾		7.8	0.28	650	394	800	116

Nickel and Nickel-based alloys																
DMV Designation	Nearest equivalent			Typical Chemical composition						Density		Min. Mechanical Prop. at RT				
	UNS	EN	JIS	C _{max}	Cr	Ni	Mo	Cu	Others			Yield St. _{RP0.2}		Tensile St. _{R_m}		
										g/cm ³	lb/in ³	MPa	ksi	MPa	ksi	
DMV 928	N08028	1.4563		0.02	27.0	31.0	3.5	1.2	N 0.10		8	0.29	210	31	500	73
DMV 931	N08031	1.4562		0.015	27.0	31.0	6.5	1.2	N 0.20		8.1	0.29	280	41	650	94
DMV 4692	N08034	2.4692		0.01	27	35	6.5	1.5	N 0.20		8.1	0.29	310	45	750	108
DMV 59	N06059	2.4605		0.01	23.0	59.0	16.0		Al		8.6	0.31	340	50	690	100
DMV 59	N10276	2.4819		0.01	16.0	57.0	16.0		W		8.4	0.30	350	51	750	109

¹⁾ All figures in weight percentage. In case of order, the limits of the order specification will apply.

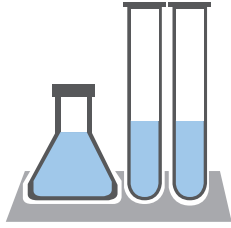
²⁾ Min PRE value controlled.

TOLERANCES

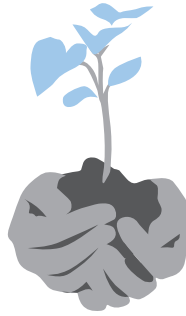
According to typical manufacturing Norms or individual customer requirements.

Outside Diameter	Hot Extruded		Cold Finished Tubes					
	D2		D2		D3		D4	
EN ISO 1127 tolerance class	D2		D2		D3		D4	
Permissible deviation	± 1.0% (min. ± 0.5 mm (±0.0197"))		± 1.0% (min. ± 0.5 mm (±0.0197"))		± 0.75% (min. ± 0.3 mm (±0.0012"))		± 0.5% (min. ± 0.1 mm (±0.0039"))	

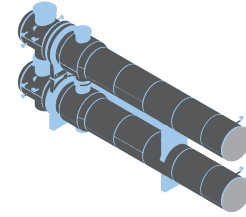
Wall Thickness	Hot Extruded		Cold Finished					
	≤ 5 mm (0.1969")	> 5 mm (0.1969")	T3		T4 (on request)			
EN ISO 1127 tolerance class	T1		T2		T3		T4 (on request)	
Permissible deviation	± 15.0% (min. ± 0.6 mm (±0.0236"))		± 12.5% (min. ± 0.4 mm (±0.0157"))		± 10% (min. ± 0.2 mm (±0.0074"))		± 7.5% (min. ± 0.05 mm (±0.002"))	



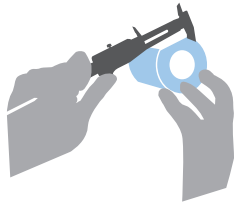
CHEMICAL INDUSTRY



FERTILISER



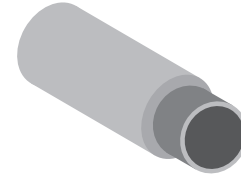
HEAT EXCHANGERS



PRECISION TUBE



DISTRIBUTION



BIMETALIC TUBES

Quality: Zero Accident – our goal, our focus, our culture.

Across our Global manufacturing locations the health & safety of everyone on our sites is paramount. The wellbeing of employees, contractors and visitors remains our number one priority.

At DMV we take pride in meeting and exceeding our Customer's Quality Expectations.

We encourage and seek feedback on our performance and from this how we may learn and continuously improve. In our most recent Customer Survey we obtained a 100% Quality Score across our Global Manufacturing plants.

We have Quality Management Systems which are approved by the world's

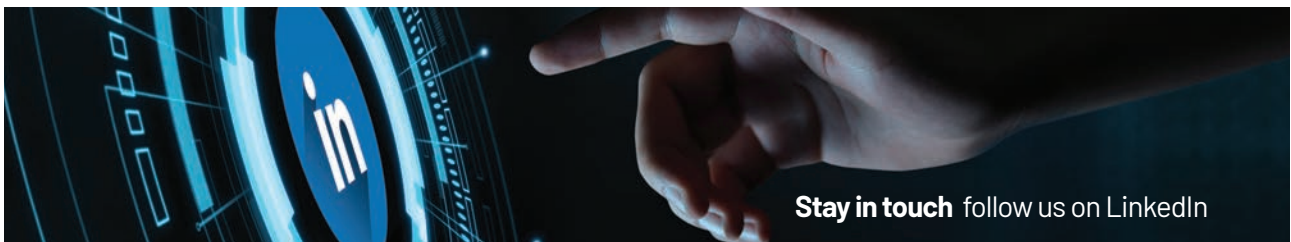
leading organisations such as: ASME, ISO, TUV, DNV, JIS and Lloyd's Register.

Our Customer approvals & accreditations reflect our commitment to the manufacture of the highest integrity products.



DMV QR code system to fight fake products

All of our orders are shipped with QR code validated certificates. Expect authentic DMV quality tubes only with validated QR code.



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