



TervAlloy™

PRODUCT DESCRIPTION: DISSOLVABLE ALLOY

TervAlloy Tax-100E™ is a high strength dissolvable magnesium designed for oil and gas applications. TervAlloy Tax-100E will dissolve in a variety of brine solutions. Tax-100E is available in frac ball configurations, in extruded tubulars and solids, or machined-to-print in shapes up to 5 inches in diameter. Our patent-pending TervAlloy can also be provided with various Response Coatings™ applied to modify or extend dissolution rates.



Dissolution rates in common mediums for Tax-100E (mg/cm ² •hr)						
Temp (°C)	Freshwater	0.1% KCl	1% KCl	3% KCl	8% KCl	15% KCl
20	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.1	1.6	4.0	9.6	11.4
60	0.0	1.1	7.5	16.0	23.5	25.2
75	0.0	5.7	14.3	22.3	39.6	39.2
90	0.0	6.3	24.4	32.1	49.0	56.5

Dissolution rates in other mediums for Tax-100E (mg/cm ² •hr)					
Temp (°C)	18.4% NaB	3.0% NaCl	3% HCl	15% HCl	5 % CaCl
45	1.7	7.2	0.2	34.8->2800	0.2
90	13.1	48.6	>360	>1500	90

Mechanical Data	4.5:1 Extrusion Ratio	9:1 Extrusion Ratio
Ultimate tensile strength (ksi)	40.0	42.1
Yield strength (ksi)	26.5	29.4
Elongation ¹ (%)	8.8	10.8

Physical data	
Density	1.85 g/cc
Hardness	116 HV

Shear strength: 18-22 ksi-longitudinal avg. double shear ratio 5:1

¹Longitudinal values

Mechanical Properties at Elevated Temperatures			
Temp (°C)	Yield strength (ksi)	Ultimate tensile strength (ksi)	Elongation
20	30.8	43.0	10.3
50	30.5	43.2	12.8
75	29.6	42.2	16.7
100	27.3	39.6	22.4
150	20.1	29.8	34.6
300	4.5	8.3	45.4

Longitudinal, average value for extrusions ratio of 13:1

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