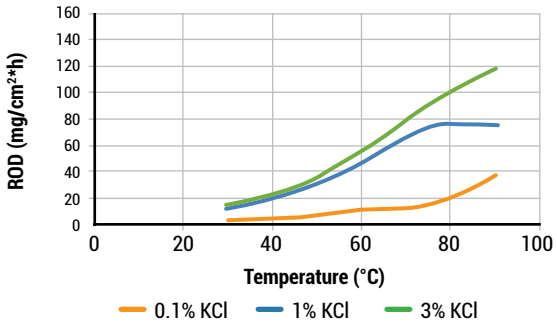
PRODUCT DESCRIPTION: DISSOLVABLE ALLOY

TervAlloy™ 1132 (FW+) is the latest freshwater version of Terves' patented dissolvable magnesium designed for oil and gas applications. This alloy presents the best of both worlds – dissolution at extremely low salinity levels (1000 ppm) with mechanical characteristics comparable to our market-leading TervAlloy™ 3241 (TAx100E).

TervAlloy 1132 is designed to provide our customers with the ideal product in applications where little salt content exists or where a very fast dissolving product is needed. TervAlloy 1132 provides mechanical performance previously unseen in any dissolvable alloy capable of responding to minimal salinity.

TervAlloy 1132 can be purchased in the same broad range of shapes offered across the TervAlloy range (including cost-saving tubulars) in lengths up to 48 inches (in increments of 6 inches), and also in frac ball configurations up to 4.95 inches in diameter.

1132 Dissolution vs Temperature



TervAlloy™ 1132
machined parts and frac ball

Physical Data	
Density	1.8 g/cc

Dissolution Rates in Common Mediums for TA-1332 (mg/cm² hr)			
Temp (°C)	0.1% KCl	1.0% KCl	3% KCl
30	4	13	16
45	6	25	29
60	11	48	56
75	15	74	90
90	39.3	75	117

Mechanical Data	4" Solid Rod 5:1 Extrusion Ratio
Ultimate Tensile Strength (ksi)	37.0
Yield Strength (ksi)	25.0
Elongation[1] (%)	9.0
Double Shear (ksi)	19.1
Compressive Strength (ksi)	52.6

[1]Longitudinal values

1 Based on the standard solution of KCl the TervAlloy dissolves in ranked from **0 to 3** (3 requires the highest salinity)
- 0: 0.01% KCl
- 1: **0.1% KCl**
- 2: 1.0% KCl
- 3: 3.0% KCl

2 Based on the rate of dissolution in the determined solution (see first number as noted above) at 60°C, ranked from **0 to 5** (5 being the highest/fastest)
- 0: 0-9 mg/cm²hr
- 1: **10-19 mg/cm²hr**
- 2: 20-29 mg/cm²hr
- 3: 30-39 mg/cm²hr
- 4: 40-49 mg/cm²hr
- 5: 50-59 mg/cm²hr

3 Based on the average ultimate tensile strength (UTS) ranked from **0 to 6** (6 being the highest) **(3)**

4 Based on the elongation, ranked from **0 to 4** (4 being the highest rate of average elongation) **(2)**

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TERVALLOY SELECTION GUIDE

TervAlloy™ 1132 (FW+) is a high strength, low salinity dissolvable magnesium designed for oil and gas applications. Below are some comparative charts outlining mechanical properties and dissolution rates for our TervAlloy product line:

TervAlloy Comparative Dissolution Rates (mg/cm²hr)

Salinity (%KCl)	Temp (°C)	TervAlloy 3241 (TAx 100E)	TervAlloy 3042 (TAx 50E)	TervAlloy 1530 (TAx FW)	TervAlloy 1132 (TAx FW+)	TervAlloy 3143 (TAx HD)	TervAlloy 1331
0.1	30	-	-	17	4	-	5
	45	5	-	34	6	3	10
	60	9	-	52	11	9	20
	75	12	1	84	15	12	30
	90	17	3	118	39	16	50
1	30	3	-	24	13	2	8
	45	10	-	48	25	8	18
	60	18	2	70	48	14	30
	75	25	3	132	74	19	55
	90	33	8	187	75	25	69
3	30	4	-	24	16	2	8
	45	13	-	51	29	9	18
	60	22	3	91	56	17	33
	75	34	5	148	90	24	60
	90	46	9	233	117	33	76

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