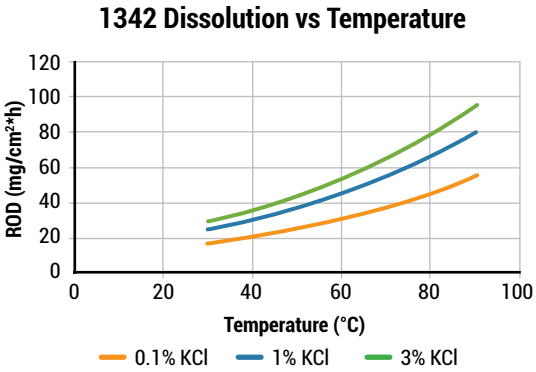
PRODUCT DESCRIPTION: DISSOLVABLE ALLOY

TervAlloy™ 1342 (HT) is a special high temperature version of Terves' patented dissolvable magnesium designed for oil and gas applications. This material is based on our TervAlloy 3141 (TAx-100E) product offering - demonstrating comparable controlled dissolution rates but higher strength, and improved performance at extreme temperatures.

TervAlloy 1342 is designed to provide our customers with a unique new technology for very high temperature (up to 150° C) applications. Besides these extreme temperature applications, TervAlloy 1342 also offers unique performance characteristics in more traditional environments. TervAlloy 1342 can be purchased in a broad range of shapes in lengths up to 48 inches (in increments of 6 inches), and also in frac ball configurations up to 4.95 inches in diameter.



Physical Data	
Density	1.9 g/cc

Dissolution Rates in Common Mediums for TA-1342 (mg/cm² hr)			
Temp (°C)	0.1% KCl	1% KCl	3% KCl
30	17	26	29
45	21	33	36
60	38	58	61
75	43	67	69
90	51	69	93

Mechanical Data	4" Solid Rod 5:1 Extrusion Ratio
Ultimate Tensile Strength (ksi)	43.9
Yield Strength[1] (ksi)	30.0
Elongation[1] (%)	13.6
Double Shear (ksi)	18.5
Compressive Strength (ksi)	63.4

[1]Longitudinal values

Mechanical Properties at Elevated Temperatures			
Temp (°C)	Yield strength (ksi)	Ultimate tensile strength (ksi)	Elongation
50	42.4	27.1	15.3
100	38.4	24.6	19
150	36.6	23.6	22

Longitudinal, average value for extrusions ratio of 6.6:1

TervAlloy™ XXXX
(1) (3) (2) (4)

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) **(4)**

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

Terves Inc. 24112 Rockwell Drive Euclid, Ohio 44117
Phone: 216-404-0053 **Email:** info@tervesinc.com

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TERVALLOY SELECTION GUIDE

TervAlloy™ 1342 (HT) is a special high temperature version of Terves' patented 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 3133 (TAx HD)	TervAlloy 1342 (TAx HT)	TervAlloy 1331
0.1	30	-	-	17	4	-	17	11
	45	5	-	34	6	3	21	22
	60	9	-	52	11	9	38	38
	75	12	1	84	15	12	43	64
	90	17	3	118	37	16	51	116
1	30	3	-	24	13	2	26	16
	45	10	-	48	25	8	33	35
	60	18	2	70	48	14	58	59
	75	25	3	132	74	19	67	109
	90	33	8	187	75	25	69	137
3	30	4	-	24	16	2	29	16
	45	13	-	51	29	9	36	35
	60	22	3	91	56	17	61	66
	75	34	5	148	90	24	69	119
	90	46	9	233	117	33	93	152

DISCLAIMER: The information provided in this document is intended to assist manufacturers and specifiers in the selection and use of Terves' products. All data noted should be understood to be average and expected performance, and is provided to serve as a general guideline only. This information **does not represent and is not to serve as minimum specification standards.** For further information contact Terves directly. All Terves commercially available products have patents or patents pending in the United States and in a variety of countries. For the latest patent information on this specific product contact Terves directly.

US Patent no.s: US9903010B2, US10150713B2, and US9757796B

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