

Metal Load

Indalloy Table

Indalloy #	Density (g/cm ³)	Metal Percentage with Sn63 Powder							
		90.5	90.0	89.5	89.0	88.0	87.0	86.0	85.0
	7.0	88.8	88.2	87.7	87.1	85.9	84.8	83.7	82.5
	7.1	89.0	88.4	87.8	87.2	86.1	85.0	83.9	82.7
	7.2	89.1	88.5	88.0	87.4	86.3	85.2	84.0	82.9
1E, 4, 227	7.3	89.2	88.7	88.1	87.5	86.4	85.3	84.2	83.1
121	7.4	89.4	88.8	88.2	87.7	86.6	85.5	84.4	83.3
	7.5	89.5	88.9	88.4	87.8	86.8	85.7	84.6	83.5
	7.6	89.6	89.1	88.5	88.0	86.9	85.8	84.8	83.7
	7.7	89.7	89.2	88.7	88.1	87.1	86.0	84.9	83.9
9	7.8	89.8	89.3	88.8	88.3	87.2	86.1	85.1	84.0
2, 70	7.9	90.0	89.4	88.9	88.4	87.3	86.3	85.2	84.2
	8.0	90.1	89.6	89.0	88.5	87.5	86.4	85.4	84.4
	8.1	90.2	89.7	89.2	88.6	87.6	86.6	85.6	84.5
204	8.2	90.3	89.8	89.3	88.8	87.7	86.7	85.7	84.7
	8.3	90.4	89.9	89.4	88.9	87.9	86.9	85.9	84.8
SN63	8.4	90.5	90.0	89.5	89.0	88.0	87.0	86.0	85.0
205	8.5	90.6	90.1	89.6	89.1	88.1	87.1	86.1	85.2
	8.6	90.7	90.2	89.7	89.2	88.2	87.3	86.3	85.3
	8.7	90.8	90.3	89.8	89.3	88.4	87.4	86.4	85.4
	8.8	90.9	90.4	89.9	89.4	88.5	87.5	86.6	85.6
7	8.9	91.0	90.5	90.0	89.6	88.6	87.6	86.7	85.7
97	9.0	91.1	90.6	90.1	89.7	88.7	87.8	86.8	85.9
	9.1	91.2	90.7	90.2	89.8	88.8	87.9	86.9	86.0
	9.2	91.3	90.8	90.3	89.9	88.9	88.0	87.1	86.1
206	9.3	91.3	90.9	90.4	90.0	89.0	88.1	87.2	86.3
	9.4	91.4	91.0	90.5	90.1	89.1	88.2	87.3	86.4
	9.5	91.5	91.1	90.6	90.1	89.2	88.3	87.4	86.5
	9.6	91.6	91.1	90.7	90.2	89.3	88.4	87.5	86.6
	9.7	91.7	91.2	90.8	90.3	89.4	88.5	87.6	86.7
	9.8	91.7	91.3	90.9	90.4	89.5	88.6	87.8	86.9
	9.9	91.8	91.4	90.9	90.5	89.6	88.7	87.9	87.0
10	10.0	91.9	91.5	91.0	90.6	89.7	88.8	88.0	87.1
	10.1	92.0	91.5	91.1	90.7	89.8	88.9	88.1	87.2
	10.2	92.0	91.6	91.2	90.8	89.9	89.0	88.2	87.3
150	10.3	92.1	91.7	91.3	90.8	90.0	89.1	88.3	87.4
	10.4	92.2	91.8	91.3	90.9	90.1	89.2	88.4	87.5
	10.5	92.3	91.8	91.4	91.0	90.2	89.3	88.5	87.6
	10.6	92.3	91.9	91.5	91.1	90.2	89.4	88.6	87.7
	10.7	92.4	92.0	91.6	91.2	90.3	89.5	88.7	87.8
	10.8	92.5	92.0	91.6	91.2	90.4	89.6	88.8	87.9
	10.9	92.5	92.1	91.7	91.3	90.5	89.7	88.9	88.0

HOW TO USE TABLE

1. Find alloy density from the Indalloy table.
2. Determine Sn63 metal percent for flux.
3. Find the corresponding value on the table.
4. Round to the nearest 0.5%.

EXAMPLE

Customer wants alloy #227 with Q91.

Density of #227 is 7.25g/cm³ which is rounded to 7.3g/cm³.

Standard Sn63 metal percent with Q91 is 90%.

The corresponding metal percent for #227 is 88.7% which is rounded to 88.5%.

The theoretical basis for these conversions is that the volume percentage must be the same for different alloys. The following equation was derived:

$$M_a\% = \frac{M_{63}\% * d_a * 100}{[840 - M_{63}\% * (8.4 - d_a)]}$$

M_a% = desired metal percent

d_a = density of desired alloy

M₆₃% = Sn63 metal percent

Over →

Form No. 98577 (A4) R0

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Metal Load

Indalloy Table (Continued)

Indalloy #	Density (g/cm ³)	Metal Percentage with Sn63 Powder							
		90.5	90.0	89.5	89.0	88.0	87.0	86.0	85.0
151, 164	11.0	92.6	92.2	91.8	91.4	90.6	89.8	88.9	88.1
	11.1	92.6	92.2	91.8	91.4	90.6	89.8	89.0	88.2
	11.2	92.7	92.3	91.9	91.5	90.7	89.9	89.1	88.3
	11.3	92.8	92.4	92.0	91.6	90.8	90.0	89.2	88.4
	11.4	92.8	92.4	92.0	91.7	90.9	90.1	89.3	88.5
	11.5	92.9	92.5	92.1	91.7	90.9	90.2	89.4	88.6
	11.6	92.9	92.6	92.2	91.8	91.0	90.2	89.5	88.7
	11.7	93.0	92.6	92.2	91.8	91.1	90.3	89.5	88.8
	11.8	93.0	92.7	92.3	91.9	91.2	90.4	89.6	88.8
	11.9	93.1	92.7	92.4	92.0	91.2	90.5	89.7	88.9
12.0	93.2	92.8	92.4	92.0	91.3	90.5	89.8	89.0	
12.1	93.2	92.8	92.5	92.1	91.4	90.6	89.8	89.1	
12.2	93.3	92.9	92.5	92.2	91.4	90.7	89.9	89.2	
12.3	93.3	92.9	92.6	92.2	91.5	90.7	90.0	89.2	
12.4	93.4	93.0	92.6	92.3	91.5	90.8	90.1	89.3	
12.5	93.4	93.1	92.7	92.3	91.6	90.9	90.1	89.4	
12.6	93.5	93.1	92.7	92.4	91.7	90.9	90.2	89.5	
12.7	93.5	93.2	92.8	92.4	91.7	91.0	90.3	89.5	
12.8	93.6	93.2	92.9	92.5	91.8	91.1	90.3	89.6	
12.9	93.6	93.3	92.9	92.6	91.8	91.1	90.4	89.7	
13.0	93.6	93.3	93.0	92.6	91.9	91.2	90.5	89.8	
13.1	93.7	93.3	93.0	92.7	92.0	91.3	90.5	89.8	
13.2	93.7	93.4	93.1	92.7	92.0	91.3	90.6	89.9	
13.3	93.8	93.4	93.1	92.8	92.1	91.4	90.7	90.0	
13.4	93.8	93.5	93.1	92.8	92.1	91.4	90.7	90.0	
13.5	93.9	93.5	93.2	92.9	92.2	91.5	90.8	90.1	
13.6	93.9	93.6	93.2	92.9	92.2	91.6	90.9	90.2	
13.7	94.0	93.6	93.3	93.0	92.3	91.6	90.9	90.2	
13.8	94.0	93.7	93.3	93.0	92.3	91.7	91.0	90.3	
13.9	94.0	93.7	93.4	93.1	92.4	91.7	91.0	90.4	
14.0	94.1	93.8	93.4	93.1	92.4	91.8	91.1	90.4	
14.1	94.1	93.8	93.5	93.1	92.5	91.8	91.2	90.5	
14.2	94.2	93.8	93.5	93.2	92.5	91.9	91.2	90.5	
14.3	94.2	93.9	93.6	93.2	92.6	91.9	91.3	90.6	
14.4	94.2	93.9	93.6	93.3	92.6	92.0	91.3	90.7	
182	14.5	94.3	94.0	93.6	93.3	92.7	92.0	91.4	90.7
	14.6	94.3	94.0	93.7	93.4	92.7	92.1	91.4	90.8
	14.7	94.3	94.0	93.7	93.4	92.8	92.1	91.5	90.8
	14.8	94.4	94.1	93.8	93.4	92.8	92.2	91.5	90.9
	14.9	94.4	94.1	93.8	93.5	92.9	92.2	91.6	91.0
	15.0	94.4	94.1	93.8	93.5	92.9	92.3	91.6	91.0
	15.1	94.5	94.2	93.9	93.6	92.9	92.3	91.7	91.1
	11.2	92.7	92.3	91.9	91.5	90.7	89.9	89.1	88.3
	11.3	92.8	92.4	92.0	91.6	90.8	90.0	89.2	88.4

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M_a% = desired metal percent
 d_a = density of desired alloy
 M₆₃% = Sn63 metal percent

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