

Aerospace Structural Metals Database (ASMD)

宇宙構造金属データベース

ログイン先: <https://cindasdata.com/Applications/ASMD/App> (IP認証)

Microelectronics Packaging Materials Database (MPMD)

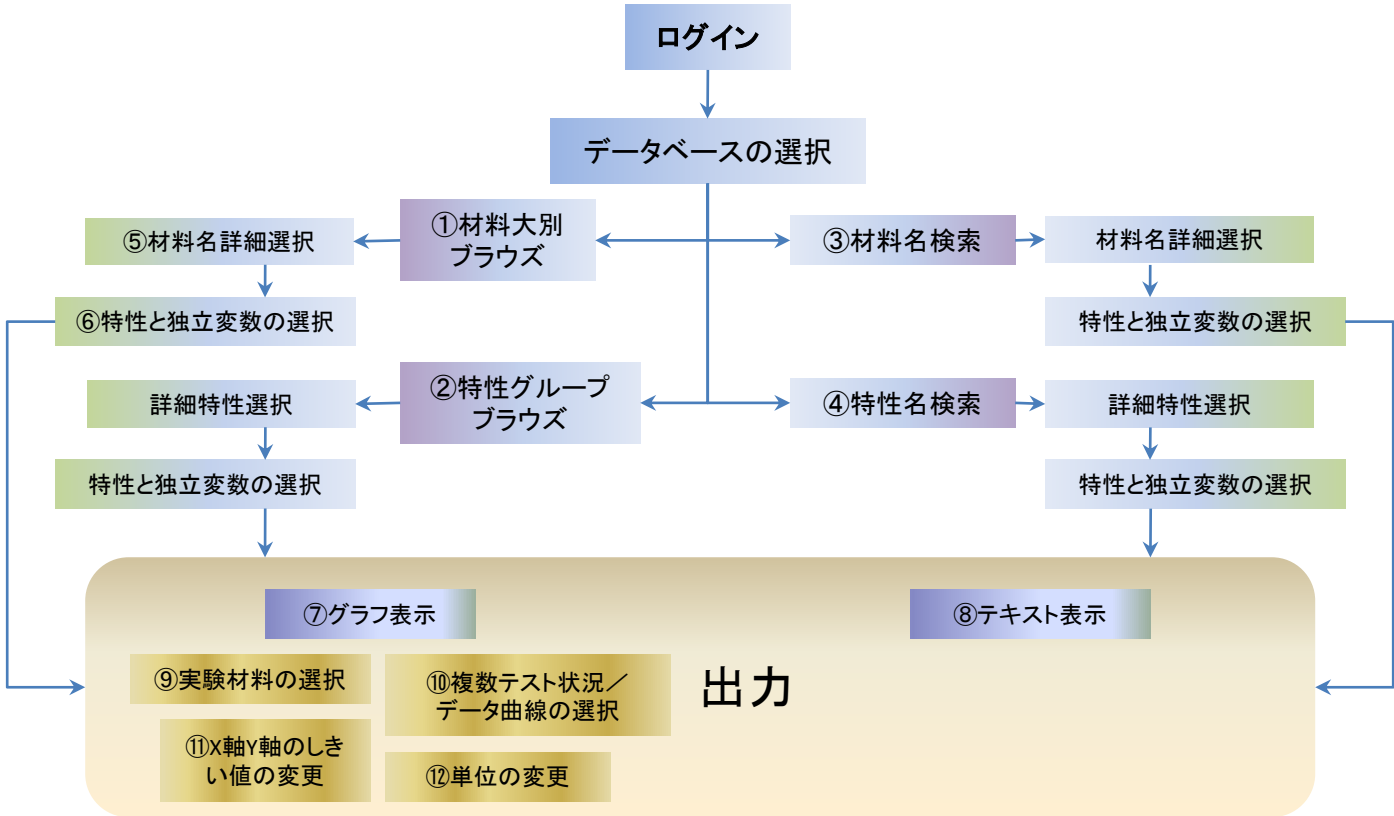
マイクロエレクトロニクス・パッケージ材料データベース

ログイン先: <https://cindasdata.com/Applications/MPMD/App> (IP認証)

Thermophysical Properties of Matter Database (TPMD)

熱物性データベース

ログイン先: <https://cindasdata.com/Applications/TPMD/App> (IP認証)



Material Name	Commercial and Alternated Designations
Carbon Steel T-1, Fe-0.15C-0.8Mn-0.85Ni-0.53Cr-0.50Mo+...	T-1, T-1 Type A, T-1 Type B, USS T-1, USS T-1 Type A, USS T-1 Type
High Strength Steel 4130, Fe-0.30C-0.95Cr-0.20Mo	4130, AISI 4130, SAE 4130, 4130H, UNS G41300, UNS H41300
High Strength Steel 4140, Fe-0.4C-1Cr-0.2Mo	4140, AISI 4140, SAE 4140, 4140H, UNS G41400, UNS J14046
High Strength Steel 4330V, Fe-0.3C-1.8Ni-0.8Cr+...	4330V, 4330, 4330 Mod, 4330V Mod, 4330V (Mod+Si), UNS J23260, U
High Strength Steel 4335V Mod, Fe-0.35C-1.8Ni+...	4335 V Modified, 4335 Modified, UNS Number K33517
High Strength Steel 4340 (4337), Fe-0.4C-1.8Ni+...	4340, AISI 4340, SAE 4340, E 4340, 4340 H, UNS G43400
High Strength Steel 52100, Fe-1C-1.45Cr	52100, E 52100, Teton (Allegheny-Ludlum)
High Strength Steel 8630, Fe-0.3C-0.55Ni-0.5Cr-0.25Mo	8630, AISI 8630, SAE 8630, 8630H, UNS J13042, UNS J13050, UNS G

材料名 工業用材料及び代替材料

Note: PDFs may take a few moments to download depending on their size.

- [Abbreviations](#) 省略形
- [Fracture Properties](#) 破壊特性
- [General Discussion](#) 一般論議
- [Glossary](#) 用語解説
- [SI Conversion Factors and Tables](#) 単位の変換の係数とテーブル

デフォルトブラウズ及び検索画面





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ASMD (version 2.1, data updated 2009.5)

[Material Cross Index](#) | [PDF](#)

Select Material Group: Aluminum Alloys, Wrought, Heat Treatable

(20 material groups)

Select Material Name: Aluminum Alloy Al-7049, Al-7.6Zn-2.5Mg-1.5Cu-0.15Cr

(26 materials)

Select Property and Independent Variable: Elongation (percent): Exposure Temperature (F)

(67 property/independent variable)

Show Graph

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材料詳細に関するPDF情報

March 1977 Aerospace Structural Metals Handbook Non-Ferrous Alloys - AIC
Author J. G. Sessler Types 355 & C355

1 GENERAL
This heat treatable aluminum casting alloy is one of two alloys whose properties are primarily determined by its high silicon content in combination with magnesium. 355 and its high purity premium strength variety C355 also contain copper which makes them stronger but less ductile and corrosion resistant than the other alloys of this group. 355. The general properties of these alloys are very similar. They are distinguished by exceptional castability and pressure tightness, high corrosion resistance and good weldability. 355 is available in the form of sand and permanent mold casting alloys, while C355 is generally a permanent mold casting. Data in the following paragraphs applies to 355 unless specifically noted C355.

1.01 Commercial Designations
355 and C355

1.02 Alternate Designations
ASTM B24 Sand-castings, ASTM B308 Permanent mold-castings. UNS A9355 (A9355-0)

1.08 Melting and Casting Practice
These alloys can be melted and cast by all common aluminum alloy casting techniques without special considerations, see Section 4.01.

1.09 Special Considerations

2 PHYSICAL AND ENVIRONMENTAL EFFECTS

2.01 Thermal Properties
2.011 Melting range: 1015 to 1150 (F) (545 to 625 C)

2.02 Phase changes
Alloy is subject to precipitation. 2.0211 Time-temperature-transformation diagrams. [Tabular Thermal conductivity] [Figures Thermal expansion] 2.0215 Specific heat: 0.23 Btu per (lb F) at 212 F (95 C)

Al
5.0 Si
1.3 Cu
0.5 Mg

⑤材料名詳細選択

⑥特性と独立変数の選択

出力: ⑦グラフ表示

出力: ⑧テキスト表示

ASMD (version 2.1, data updated 2009.5)

Material Group: Aluminum Alloys, Wrought, Heat Treatable
Material Name: Aluminum Alloy Al-7049, Al-7.6Zn-2.5Mg-1.5Cu-0.15Cr
Property: Elongation (percent)
Independent Variable: Exposure Temperature (F)

⑨実験材料の選択

Step 1. Select Materials
Select one or more materials from the list below. Hold the control key to select multiple materials. Available data curves will be displayed on the right. Then proceed to Step 2.

Material 1: Aluminum Alloy Al-7049, Al-7.6Zn-2.5Mg-1.5Cu-0.15Cr

⑩複数テスト状況/データ曲線の選択

Step 2. Select Data Curves/Test Conditions
Select between one and twenty data curve descriptions from the list below to view graphs. Hold the control key to select multiple data curves.

1. Material 1 (1, 1): C1: RT, 172.5° F temp; exposed 1/2 hr, (x-2), exp data
2. Material 1 (1, 2): C2: smooth curve of C1
3. Material 1 (1, 3): C3: 10 hr, exp data
4. Material 1 (1, 4): C4: smooth curve of C3
5. Material 1 (1, 5): C5: 100 hr, exp data

⑪X軸Y軸のしきい値の変更

Range Parameters
Minimum: X-Axis: 75.967, Y-Axis: 7.9912, 14.15
Graph Options
Unit Conversion: X-Axis: F, Y-Axis: percent

⑫単位の変更

Elongation of Aluminum Alloy Al-7049... vs. Exposure Temperature

Selected data curves are displayed in the graph below.

ASMD (version 2.1, data updated 2009.5)

Material Group: Aluminum Alloys, Wrought, Heat Treatable
Material Name: Aluminum Alloy Al-7049, Al-7.6Zn-2.5Mg-1.5Cu-0.15Cr
Property: Elongation (percent)
Independent Variable: Exposure Temperature (F)

⑧テキスト表示

Step 1. Select Materials
Select one or more materials from the list below. Hold the control key to select multiple materials. Available data curves will be displayed on the right. Then proceed to Step 2.

Material 1: Aluminum Alloy Al-7049, Al-7.6Zn-2.5Mg-1.5Cu-0.15Cr

⑫単位の変更

Range Parameters
Minimum: X-Axis: 75.967, Y-Axis: 7.9912, 14.15
Graph Options
Unit Conversion: X-Axis: F, Y-Axis: percent

Effect of exposure to elevated temperature on room temperature property of Group 355.

Specimen form and specification: 5" Frings, Condition: 772, Test Conditions: Exposed: 1/2 hr, 100 hr, 1000 hr, 10000 hr, Status at Test: Deformed, Block: Each point avg of 3 tests.

Data Points

Curve	X	Y
Curve 1	7.5967e+01	8.4356e+00
	7.9912e+01	8.5756e+00
	8.4284e+01	8.5756e+00
Curve 2	1.0482e+02	8.2893e+00
	1.0482e+02	8.4356e+00
	1.0482e+02	8.5756e+00
Curve 3	2.0207e+02	1.1029e+01
	2.0207e+02	8.2893e+00
	2.0207e+02	1.1429e+01
Curve 4	7.5967e+01	8.4356e+00
	7.9912e+01	8.4356e+00
	8.4284e+01	8.2893e+00
Curve 5	2.4512e+02	8.1156e+00
	2.0207e+02	1.1702e+01
	2.0207e+02	1.3933e+01
Curve 6	7.5967e+01	7.9912e+00
	7.9912e+01	8.2893e+00
	8.4284e+01	8.5756e+00

References:
Ref No. 27 Tracy, W. W., "Metals-Data: Aluminum Alloy 7049-7051, Effect of Exposure Temperature on Mechanical Properties", Report PD-5341, General Dynamics, Fort Worth Division, December, 1969.

テキスト表示の場合は、すべての項目の実験値が表示されます。

レファレンスは、テキスト表示のみ

- リンクを開く(O)
- リンクを新しいタブで開く(W)
- リンクを新しいウィンドウで開く(N)
- 対象をファイルに保存(S)
- 対象を印刷(P)
- 画像の表示(I)
- 名前を付けて画像を保存(S)
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- 画像を印刷する(O)
- マイピクチャへ移動(Q)
- 背景に設定(C)
- 切り取り(D)
- コピー(C)
- フォーマットのコピー(F)
- 貼り付け(P)
- お気に入り(追加)(A)
- Google 検索
- 次に送信
- ページ情報
- Bluetooth デバイスに送信(S)
- プロバティ(B)

グラフを指定し、右クリック。
ビットマップにてグラフをCopy可能。

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