耐熱耐食Ni-Cu系焼結摺動材/ B820

Ni-Cu Based PM Bearing with Heat & Corrosion Resistance / B820

※特許登録済
Patent registration

うれしさ&特長 *Delight & Features*

●排ガスや塩などの腐食環境下で優れた耐食性
Durability under Exhaust or chloride attack condition.

●高温(～500℃)で使用可能な摺動材料
New Ni base PM Bearing has greater heat resistance than current PM Bearings.

材料特性 *Properties*

●材料系と耐熱&耐食性・耐摩耗性 Material system and heat & corrosion & wear resistance

	材質名 Symbols	材料系 Materials System	耐熱・耐食性 Heat & Corrosion-resistant	耐摩耗性 Wear – resistance
開発材 Developed	**B820**	Cu – Ni – Sn based	◎	◎
比較材 Comparison	PM SUS410L	Fe – Cr based	○	×

●B820材の耐食性と耐摩耗性

①高温・腐食サイクルテスト High temperature・corrosion cycle test

Table 1 耐熱・耐食性比較 Heat &corrosion-resistant comparison

	重量変化(%) weight variation	寸法変化(%) Size variation
開発材(B820) Developed	+0.30%	+0.02%
比較材(PM SUS) Comparison	−0.29%	−0.06%

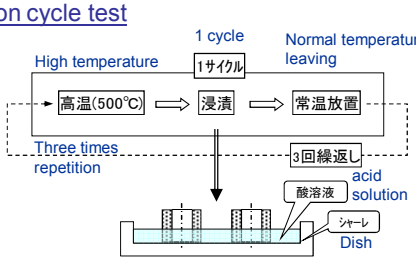


Fig.1 サイクルテスト実験方法
Cycle test experiment method

液面境界部さび発生
Rust in Surface border part

B820 PM SUS

Photo.サイクルテスト後の外観
Appearance after the cycle test

②耐摩耗評価(ドライ) Abrasion-resistant evaluation (dry)

Table 2 摩耗量比較 Wear loss comparison

材料 Material	メタル摩耗深さ(mm) Wear depth
開発材 (B820) Developed	0.003
比較材 (PM SUS410L) Comparison	0.025

【試験条件】 testing condition
・摺動数 Slide number : 250,000
・潤滑油 lubricating oil : なし
・面圧 Aspect pressure :0.5 N/mm²
・試験温度 Test temperature :120℃

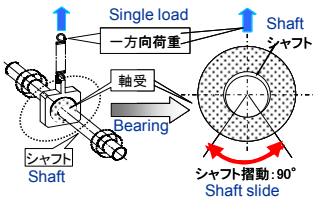
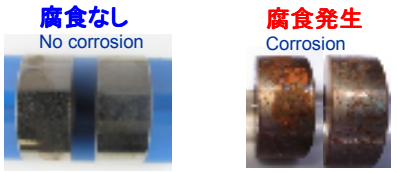


Fig.2 摩耗テスト実験方法
Abrasion test experiment method

●耐塩性 Salt tolerance

中性塩水噴霧試験(JIS Z 2371)
Neutral salt spray testing

＊24時間後の外観 Appearance after 24 hours



開発材B820 Developed

PM SUS410L

用途例 *Example of Use*

● 排ガス再循環装置(EGR) Exhaust gas recirculation device

株式会社ダイヤメット
DIAMET CORPORATION

耐熱耐食焼結軸受 / B097

Heat & Corrosion resistant sintering bearing / B097

※特許登録済
Patent registration

うれしさ&特長 *Delight & Features*

- 排ガスなどの高温、腐食環境下で使用可能な焼結軸受
  Best suited for severe environments including high temperature of exhaust gas atmosphere and corrosive environment .
- B097は従来青銅系材よりも優れた耐摩耗性&耐熱性&耐食性
  Developed material has more excellent wear resistance & heat resistance & corrosion resistance than conventional bronze based material.

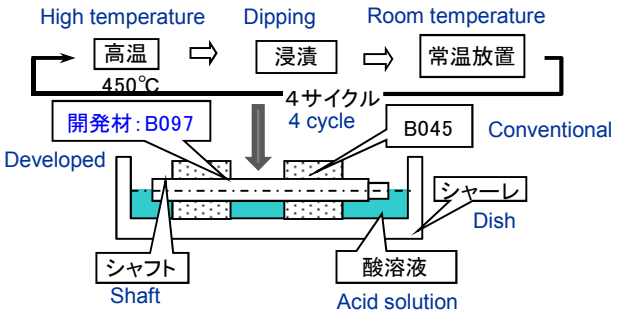
材料特性 *Properties*

●材料系 Material System

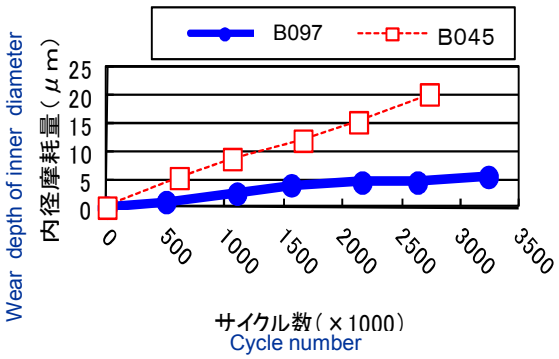
	材質 Symbols	材料系 Materials System	耐熱&耐食性 Heat & Corrosion-resistant	耐摩耗性 Wear – resistance
開発材 Developed	B097	Cu – Ni – Sn – P – C	◎	◎
従来材 Conventional	B045	Cu – Sn – C	△	○

●耐熱・耐食性
Heat & Corrosion Resistance

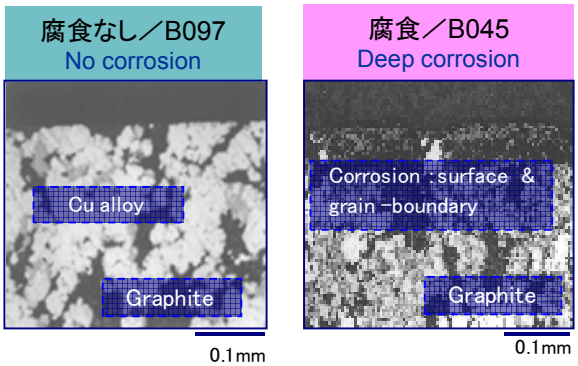
【耐熱・耐食性評価試験】
Heat & Corrosion Resistance testing condition



●耐摩耗性
Wear Resistance



【断面組織】Cross-section



用途例 *Example of Use*

- 排ガス再循環装置（EGR）
  Exhaust gas recirculation device

株式会社ダイヤメット
DIAMET CORPORATION

耐食焼結軸受 / B095

Corrosion-resistant sintered bearing / B095

※特許登録済
Patent registration

うれしさ＆特長 *Delight & Features*

● 硫黄に対して優れた耐食性と耐摩耗性
Corrosion-resistant material “B095” has superior corrosion resistance and fine tribological characteristics in the gasoline containing sulfur.

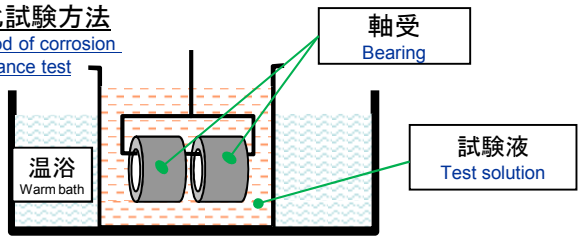
材料特性 *Properties*

● 材料系と特徴 Material System and Features

	材質名 Symbols	材料系 Material System	耐食性(耐硫化) Corrosion-resistant	耐摩耗性 Wear – resistance
開発材 Developed	**B095**	**Cu – Ni – P – C**	◎	◎
従来材 Conventional	B031	Cu – Sn – C	×	○

● 耐食性 Corrosion-resistant Characteristics

硫化試験方法
Method of corrosion resistance test



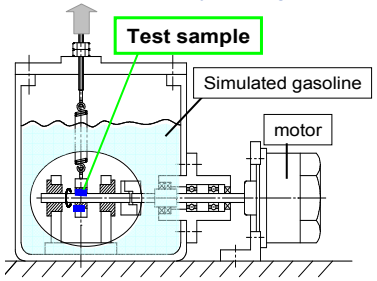
試験条件 Test condition

試験液：硫黄添加ガソリン
Test solution : Sulfur contained gasoline
試験温度：333K
Test temperature
浸漬時間：200時間
Test time : 200 hours

外観写真
Appearance

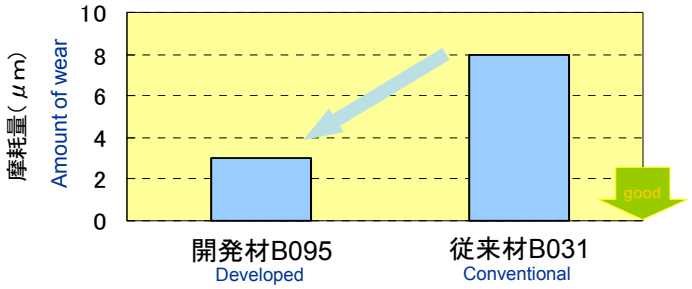
● 耐摩耗性 Wear Characteristics

耐久試験方法 Durability testing method



Interface pressure : 1.4N/mm²
Slipping velocity : 1.8m/s

内径摩耗量
Result of durability test



▪ 試験後相手シャフト状態は両者とも良好
Both shaft states are good after the test

用途例 *Example of Use*

● 燃料ポンプ Fuel pump

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