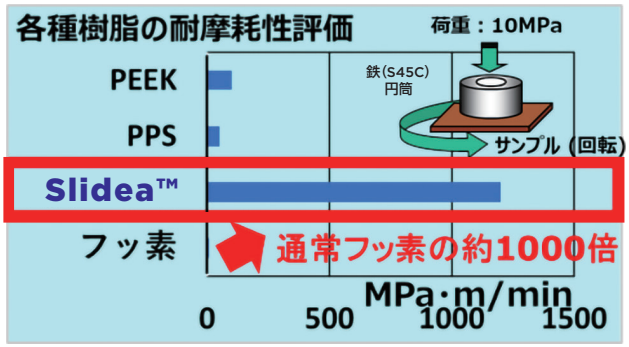
住友電工

ポリイミド系摺動部品 Slidea™

製品の概要

・ポリイミド等の硬質樹脂に潤滑性を付与した
コーティング材**Slidea™**（開発中）
・樹脂として、最高度の耐摩耗性、
摺動性、非粘着性あり



スラスト摩耗試験結果（ドライ）

製品の特長

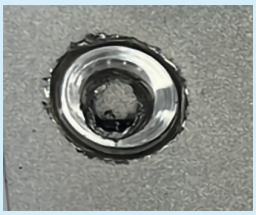
従来塗装が困難な部品や材料に対しても、低摩擦、耐摩耗、
高精度に塗装できる技術を開発、以下の効果が見込まれる

1. **電力消費削減:** 駆動部品の摩擦・摩耗低減
2. **軽量化:** マグネシウム合金、アルミ等の軽量金属の耐摩耗改善

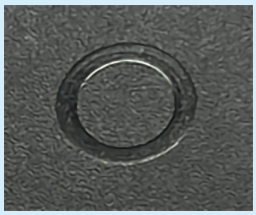
製品用途・活用事例

1. **パイプ内面への塗装**
   ワイヤー、硬度物質搬送の潤滑性
2. **マグネシウム合金の潤滑、低発塵:**
   塗装による耐摩耗性、潤滑性、
   摩耗による粉塵低減、難燃性

スラスト摩耗試験結果

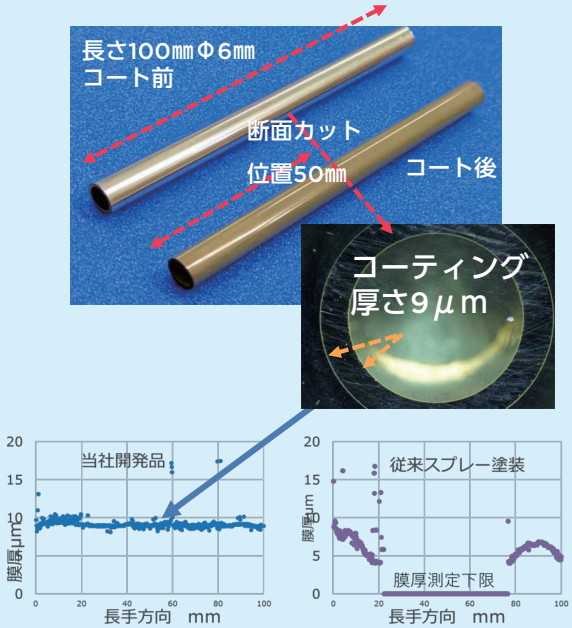


磨耗大 1m/s 中止
摩擦係数0.5
マグネシウム
合金単体



磨耗小 2m/s 以上
摩擦係数0.08
マグネシウム
合金塗装品

パイプ内面への塗装試作



パイプ奥まで
内面塗装可能

従来はパイプ奥の
内面塗装困難

当社の強み

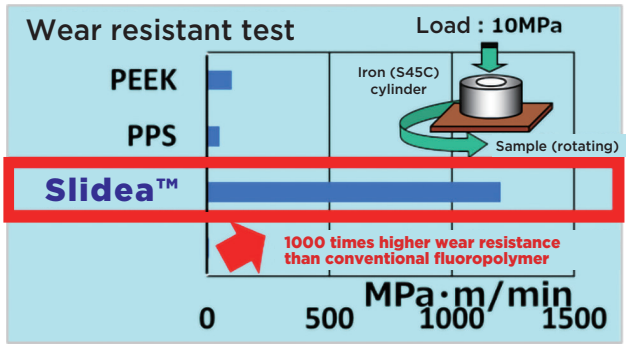
潤滑性の高い塗料と塗装技術を開発。従来にない塗装厚み精度を実現

Slidea™
Polyimide-based Coating
with Enhanced Sliding Performance

住友電工

Overview

- Slidea™ is a coating material (under development) adding lubricity to hard resins such as polyimide.
- As a resin, it performs the highest level of wear resistance, sliding, and non-adhesiveness.



Thrust Wear Test Results (in dry condition)

Features

We have developed a technology of being capable of applying low-friction, wear-resistant, and high-precision coating to components and materials that were conventionally difficult to be coated.

Desired results:

1. **Reduce power consumption** by reducing friction and wear on driving components
2. **Achieve light weight** by improving wear resistance of lightweight metals, e.g. magnesium alloys and aluminum

Applications & Use Cases

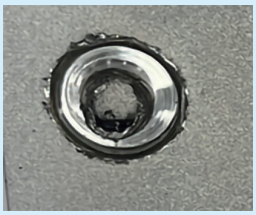
1. **Internal pipe coating**

   Add lubricity for conveying wires and hard materials efficiently

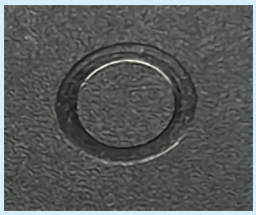
2. **Lubricity and reduced dust emission on magnesium alloys**

   Enhance wear resistance and lubricity with coating, reduce dust emission generated from wear Flame-retardant

Thrust Wear Test Results

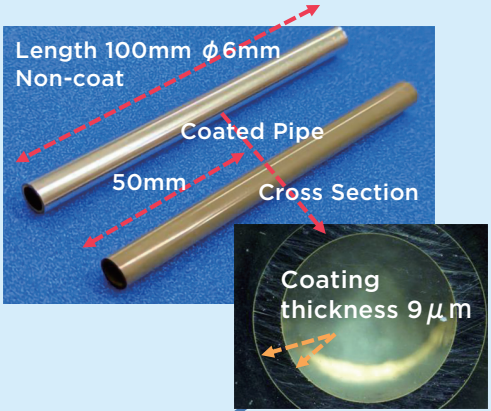


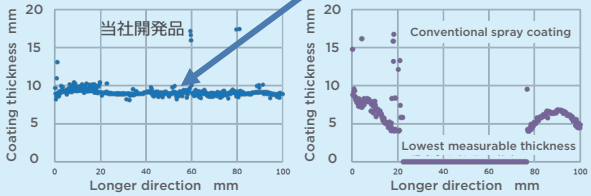
Serious wear: stopped at 1m/s
Friction Coef.: 0.5
Uncoated Mg alloy



Minor wear: ran 2m/s and longer
Friction Coef.: 0.08
Coated Mg alloy

Internal Pipe Coating Trial





Slidea™ allows internal pipe coating

Conventionally, difficult to coat inside

Our Advantage

We have developed highly lubricative coating materials and technologies achieving unprecedented accuracy of coating thickness

SUMITOMO ELECTRIC GROUP