

Pre-Coated Aluminum Sheets with Conductivity “FUSCOAT LUBERS Series”

1. INTRODUCTION

As downsizing and weight reduction in portable electronic equipment, notebook PCs, etc. are proceeding, the use of pre-coated aluminum sheets is increasing replacing galvanized steel sheets and stainless steel sheets. When pre-coated aluminum sheets are used in such applications, the coating film is often required to have conductivity, besides formability and corrosion resistance, so as to provide the sheets with grounding and electromagnetic wave shielding properties.

In view of such needs, Furukawa Electric has developed pre-coated aluminum sheets “FUSCOAT LUBERS Series”, which greatly reduce the electrical resistance of coating film, while maintaining the basic properties as of structuring materials.

2. FEATURES

- 1) Because the coating film is low in electrical resistance, the sheets are applicable to many products that require grounding and shielding properties.

Figure 1 shows the cross sectional structures of the sheets. The sheets can be largely categorized into two types according to the method of providing conductivity: with and without the addition of conductivity reinforcing agent into the coating film. The former uses fine particles of metal as conductivity reinforcing agent, and the latter is based on electrical conductive

resin. Furukawa Electric has a lineup of multiple products for each type, thus being capable of responding to diversified needs.

- 2) Because the coating film is lubricative, the sheet has excellent formability thereby permitting processing to complicated shapes.
- 3) The sheet is resistant against finger printing with bare hands, thus enabling easy handling.
- 4) The coating film is hardly soluble against chemicals, so that wide ranges of detergents are available for selection in case of cleansing.
- 5) Because it is pre-coated, the sheet is stabilized in quality realizing cost reductions on the processed products.

3. PROPERTIES

Table 1 shows the properties of FUSCOAT LUBARS.

It can be seen that not only is the sheet superior in conductivity to ordinary coated materials, but also it meets all the property requirements for customers' production and use in a satisfactory manner.

4. USES

The sheet is widely applicable to various electro-electronic equipment such as driving hardware for personal computers and casings for measuring equipment, where ground-

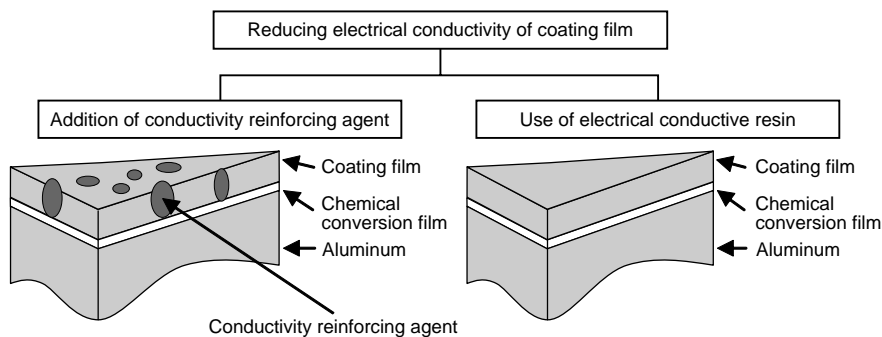


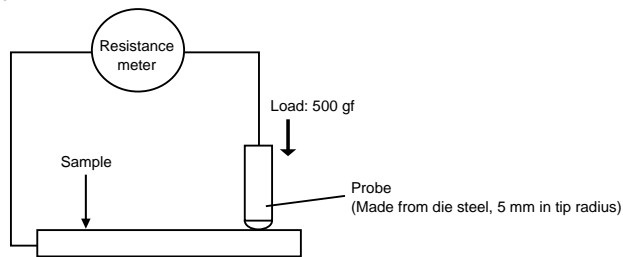
Figure 1 Structures of FUSCOAT LUBARS.

Table 1 Properties of FUSCOAT LUBARS.

Product		Conductivity reinforced type			Conductivity non-reinforced type	
		FLN01 (FC42)	FLN02 (Doujun-1)	FLN03 (Doujun-007)	FLR01 (FC47)	FLR02 (Doujun-A)
Electrical conductivity	Contact resistance (Ω)	≤5	≤4	≤3	≤2	≤2
Lubricity	Coefficient of dynamic friction	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1
Ease of handling	Finger-print resistance	○	○	○	○△	○
	External-damage resistance	○	○	○	○△	○
Corrosion resistance	SST in 100 hr	○	○	○	○	○
Chemical resistance	Ethanol	○	○	○	○	○
	Hydro carbon cleaners	○	○	○	○	○
	Neutral detergents	○	○	○	○	○
	Trichloroethylene	○△	○△	○△	○	○

<Evaluation method>

• Electrical conductivity: See the figure below.



- Lubricity: Coefficient of dynamic friction is measured using Bawden Tester. Probe with φ3 mm steel ball; Load: 100 gf; No lubrication
- Ease of handling: Visibility of finger prints and scratches is checked with visual observation.
- Corrosion resistance: Salt-water spray test in conformity to JIS Z 2371.
- Chemical resistance: Coating film conditions are observed after rubbing test using specified chemicals. Load: 450 gf; Rubbing times: 50 repetition



Figure 2 CD-ROM drive using FUSCOAT LUBARS.

ing and shielding properties are required.

Figure 2 shows an example of use for a casing of CD-ROM drive.

For more information, please contact:
 Developmental Marketing Gr., Developmental
 Marketing Dept.
 UNIFUS ALUMINUM CO., LTD.
 TEL: +81-3-5611-2398
 FAX: +81-3-5611-2413
 or visit our website at:
<http://www.unifus.co.jp/>