

## Film-Laminated Metal Foil

### 1. Overview

A film-laminated metal foil, produced by laminating a resin film on one side or either side of a metal foil, can add electrical insulation, ornamental design, corrosion resistance, and other properties of resin film to the properties of metal foil. NSC has developed film-laminated metal foils using a special compounded resin having excellent printability, surface beauty and workability (**Fig. 1**).

### 2. Features

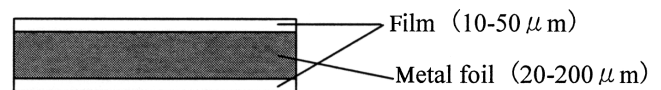
The special compounded resin is a new type of resin NSC developed by dispersing adhesive and softening ingredients, in fine particles not larger than 1 micron, into a base resin. This product has the following features.

- (1) High adhesion to metal foil
- (2) High workability
- (3) Attractive appearance

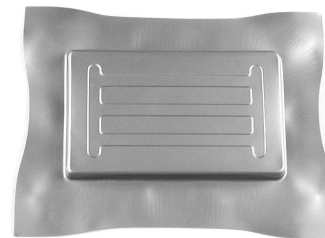
A metal foil covered with laminated film of this new type of resin has the following features.

(i) Oil-less workability: The new type of resin has excellent lubrication, elongation, and adhesion-to-metal properties, and can therefore be used for forming film-laminated metal foils without the aid of lubricating oil (**Photo 1**). Its excellent lubrication property assures longer mold life, permits high-speed molding, and eliminates the necessity of post-forming de-oiling or degreasing, which helps maintain the working environment clean.

(ii) Attractive appearance: The surface of the special compounded resin film can be made to display gloss, matte, an embossed pattern, or other appearances, and can therefore add quality, warmth, or other visually attractive characteristics to the metal foil. The film also has excellent printability and coloring and the film-laminated metal foil can easily have color-printed surfaces.



**Fig. 1** Film-laminated metal foil

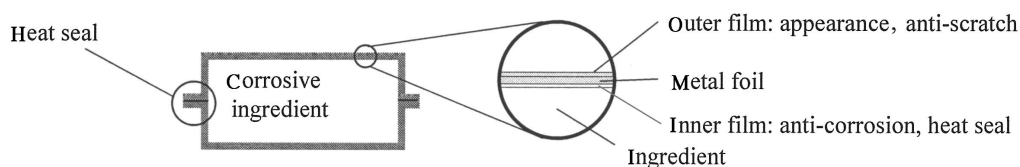


**Photo 1** Oil-less pressed film laminated metal foil

The electrical insulation property of this new type of resin can be utilized for electronic parts. This material, if combined with a vibration-absorbing function, may also be well applied to vibration-damping metal foils.

### 3. An Example of Product Design

It is possible to produce a film-laminated metal foil consisting of a metal foil both surfaces thereof covered with laminated films of different properties. A good-looking vessel produced in this manner for containing corrosive solution (**Fig. 2**) may be applicable, for instance, as a dry cell case.



**Fig. 2** Metal foil container laminated with two types of films (cross-section)

( For further information, contact  
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