

### Contact Materials and Definitions

To provide economical switches without sacrificing reliability, *ELECTROSWITCH* has developed contact materials with precious metal inlays and overlays. These are being used in many applications, replacing solid precious metals which were the industry standard. In keeping with our philosophy, new contact materials must meet or exceed all existing standards and must not adversely affect switch performance.

Contact materials that are not gold plated have a protective anti-tarnish coating applied after plating to inhibit oxidation during assembly, shipping, and storage.

The contact materials described provide for a full range of switching applications, from dry circuitry to 1 amp at 110 VAC. Current and voltage ratings on resistive loads at room ambient operating temperatures should not exceed those shown.

*ELECTROSWITCH* developed double wiping contacts for their rotary switches which are self-cleaning and require no maintenance during life under normal operating conditions. The self-cleaning action assures a clean, positive contact capable of wiping through accumulated particles or dust, oxides, and other contaminants.

**Non Shorting Type Switch**—also called “break before make.” When switching from one position to the next, the first contact fully breaks before the second contact is made.

**Shorting Type Switch**—also called “make before break.” When switching from one position to the next, the second contact is closed before the first is opened.

**Cycle**—is defined as a rotation from one stop to the other and return or 330° rotation for a 12 position switch. An operation is normally defined as the making and breaking of an electrical contact.

## Contact Materials

Contact Material	Suggested Maximum Operating Temperature	Typical Life Cycles (No load, room ambient)	Suggested Application
Brass, silver plated with protective anti-tarnish coating (OMS106, CMS237, CMS80)	+100°C	10,000 cycles	Commercial
Special spring base material with silver alloy rolled on contact surface (CMS333)	+100°C	100,000 cycles Silver-to-silver contact	Commercial
	See MIL-S-3786 & QPL List	100,000 cycles Silver-to-silver contact	Military
Spring silver alloy (OMS132)	+100°C	200,000 cycles Silver-to-silver contact	Commercial & Military Increased life

## Insulation Materials

The table below lists the types of stator and rotor insulation now available for *ELECTROSWITCH*'s rotary switches.

Insulation Material	MIL Specification	Temperature Range (Non-Military)
Phenolic	L-P-513 Type PBE-P	-65°C to +100°C
Glass Silicone	MIL-P-997 Type GSG	-65°C to +85°C
Ceramic	MIL-1-10 Grade L-422	-65°C to +150°C
Diallyl Phthalate	MIL-M-14	-65°C to +85°C
Glass Epoxy	MIL-P-18177 Grade GEE	-65°C to +85°C

# OPEN FRAME SWITCHES