



NICKEL ACRYLIC  
RFI/EMI CONDUCTIVE LACQUER

ISOLEX® R65

PRODUCT USE

Isolex R65 is a Nickel Acrylic, functional, air dry lacquer designed for RFI/EMI suppression in a variety of electronic plastic products.

Isolex R65 produces excellent attenuation levels (60 dB at 30 MHz to 75 dB at 1000 MHz). At 2.0 mils of Dry Film Thickness (DFT), Isolex R65 has a continuity reading of 0.5 ohms/sq. or less.

SUBSTRATES

Isolex R65 has been tested and approved on a wide variety of substrates, both solid and structural foam. A listing of these substrates can be obtained from Randolph Products Technical Service or Marketing Departments. Each approved substrate has been tested by Underwriters Laboratories, Inc. and has been listed under QMSS2 File No. E76989(N).

PHYSICAL PERFORMANCE PROPERTIES

Isolex R65 passes the following testing procedures and methods:

- Initial Adhesion – ASTM D3359 (Method B)
- Humidity – ASTM D2247 – 200 hours
- Humidity - UL® - 56 days @ 90% humidity @ 90° F
- Heat Age – 56 days @ 180° F\*
- Thermocycle - -40°F to 140°F - 10 cycles
- Thermocycle Humidity – Class A – 36 hours @ -65°F +185°F and 120 hours humidity @ 90°F

\*some testing was done at 140°F due to substrate limitations.

Low S

MIXING INSTRUCTIONS

Isolex R65 is reduced 1:1 (P:T) by volume. T65998 is an appropriate thinner for this product, however, other thinners are available for specific substrates and production idiosyncrasies.

APPLICATION INSTRUCTIONS

Isolex R65 is designed to be applied with conventional air spray equipment. Binks Model 62 (63B fluid nozzle, 63PB air cap), Devilbliss Model JGA (704FF fluid and air cap) or the equivalent is recommended. An agitator pressure pot system must be utilized and reduced material kept under agitation at all times for uniform results.

Starting pressures are 5-10 psi for pot pressure and 30-50 psi for atomization pressure. These pressures are not critical and can be modified for production requirements. Best results and optimum continuity are obtained at 2.0 mils (DFT).

KEY FEATURES/

BENEFITS

- Does not settle, no hard pack (as received).
- Low ohms/sq. – 0.5 ohms per square or less at 2.0 mils.
- Excellent attenuation level.
- Adhesion to most injection molded plastics.
- High electro-magnetic absorptive properties over a broad frequency range.
- Underwriters Laboratories, Inc. has tested Isolex R65 under QMSS2 File No. E76989 (N).
- 495 square feet per 1.0 mils at 100% transfer efficiency.



## INSTRUCTIONS FOR USE

### Mixing Instructions:

R65 should be mixed (on a shaker) for approximately 15 minutes. Raw paint should be thinned 1:1 by volume with the appropriate thinner. Common thinner recommendations are as follows:

Polycarbonate	T 65998
ABS	T 65998
Noryl	T 65998
	T 21541
Polystyrene	T 415
	T 21871

Do Not Overthin! Overthinning can lead to settling and hardpacking of the conductive coating. It is recommended that the thinner be filtered prior to mixing with the raw paint. A 100-150 filter will be adequate. Always add the thinner to the paint (never the paint to the thinner). Add the thinner under agitation. The thinner must be at room temperature prior to adding to the paint. Paint must be under agitation when in use.

### Application Instructions:

R65 should be applied using an agitated pressure pot. Hose diameter on the fluid and air lines should be 3/8" diameter. Minimum length of the fluid hose should be 3 feet, maximum should be 6 feet. (Hose lengths outside these limits will require changes in the recommended pot and atomization pressures.)

Recommended pot pressure = 10-15 psi

Recommended atomization pressure = 40-50 psi

The fan adjustment on the spray gun should be opened to allow a 12-inch spray pattern. The coating should be applied so that the parts consistently have 3 – 4 mils wet film thickness. Any time the sprayer must interrupt spraying for more than a period of 5 minutes, the lines from the pressure pot must be flushed.

### Cure:

R65 is an air dry lacquer. Cure can be accelerated by force drying the parts for 30 minutes @ 140°F. Full physical properties should not be tested for a minimum of 72 hours at room temperature. Final  $\Delta/\Delta$  should be  $<0.5 \Delta/\Delta$ .

### Part Preparation:

Parts should be blown off with an air gun to remove loose particles of dirt and dust that may have settled on the part. Some parts may require an actual wash to remove oil or mold release prior to coating. A good solvent recommendation for this wash is a 50/50 blend of isopropyl alcohol and heptane.

### Special Considerations:

Thin only what is to be used per shift. Do not store thinned material overnight without agitation. Material may settle and hardpack.

### Storage of Incoming Stock:

Store R65 at temperatures between 40°F and 75°F.

### Inventory Control:

Rotation of stock is important. A policy of "first in-first out" should be instituted. R65 has a shelf life of six (6) months from the time it is shipped.