

Resin Test Book

CONTENTS

Introduction	3
Q.U.V. Resistance.....	4
Resistance to the chemical agents after 120 hours of total immersion	4
Shrinkage	5
Specific Automotive Tests.....	5
Artificial ageing at the Weather O Meter	5
Grit Test.....	5
Climatic ageing.....	5
Sensibility to scratching.....	5

Introduction

Color-Dec Italy has printed this assistance literature to help you understand the properties of Domes resins. It is intended to be a general guide. If you have any questions that have not been covered in this guide, please contact Color-dec.

Domes resins are two-component, 100% reactive, room temperature curing products. With this resins, you may produce an attractive three dimensional “dome” or “lens” of clear coating.

Color-Dec provides resin intended for outdoor applications, which has excellent resistance to weathering and ultraviolet light. The outdoor resin performs extremely well in outdoor and indoor applications. Color-Dec customers in Japan, Europe and other global areas use this resin for exterior automotive applications. Several have gained automotive use approval from GM, Ford, BMW, Toyota, Nissan and others. Color-dec resins are also excellent for marine applications. These applications would require the substrates and their adhesives be tested and approved locally.

Color-Dec also provides resin intended for indoor applications only, which has a good resistance to ultraviolet light emitted from the sun, though this resistance is not the same as for the resin for outdoor applications. Is also has less exterior weathering properties, less resistance to humidity.

Both interior and exterior resins are compatible with most commonly used ink systems, except water soluble inks. Since the resin is hygroscopic, water soluble inks would not be useable.

Most Color-Dec systems do not contain solvents or any other volatile materials. They are 100% reactive systems. The cured Domes resin built thickness is normally in the range of 0.060 (1.5mm) to 0.080 (2mm) inches off the flat surface of the printed label. In this thickness range, the coated labels have three dimensional effect. Color-dec resin coatings produce a high gloss finish. A post-dome process is also available to obtain a matt finish.

Temperature Resistance

There is no modification of our resin between $-30\text{ }^{\circ}\text{C}$ and $+60\text{ }^{\circ}\text{C}$, constant exposure. One of our customers is having an acceptance test for our domes resin which is 2h30 at $130\text{ }^{\circ}\text{C}$ with no change. This dome is used on the front panel of a gas cooker.

Q.U.V. Resistance

Our resin is still good after QUV exposure of 1500 hours.

Q.U.V. ageing test conditions:

8 hours cycles:

1. Uv B rays (310 nanometers) at $0.63\text{ W/m}^2/\text{nm}$ irradiance at $60\text{ }^{\circ}\text{C}$: 4 hours
2. Water spray at room temperature: 3mn
3. Condensation at $50\text{ }^{\circ}\text{C}$: 3 hours, 57mn

Resistance to the chemical agents after 120 hours of total immersion

Water	Very good
See Water	Very good
Hydrochloric Acid-1N	Good
Sulphuric acid	Very good
Ammonium Hydroxide	Good
Sodium Hydroxide	Very good
Ethyleneglycol	Very good
Motor oil ELF 15W40	Very good

Shrinkage

The tests were performed with 2mm thickness samples rested 15 days at room temperature. The result is that there is no shrinkage after 17 days at 80 °C.

Specific Automotive Tests.

Colordec resins are performing appropriate results on the following Automotive test

Artificial ageing at the Weather O Meter

which permits to test the artificial ageing under exposure to the light of a Xenon lamp. Test has been realized in conformity of the method RENAULT D27 1911 (02/95). The device used is a Weather O Meter manufactured by the company ATLAS.

Grit Test

which permits to test the resistance of a piece exposed to a projection of grits. Test has been realized in accordance to the method RENAULT 1428 (10/83).

Climatic ageing

Which has the objective of the checking materials sustain, alone or assembled, a climatic ageing cycle.

Test has been realised in conformity to the method RENAULT 1309 (09/81).

Sensibility to scratching

Which permits to determine the sensibility to scratching on a painted foil. It also permits to evaluate the sensibility to the scratching of plastics with or without coating.

This test has been realized in conformity with the test method PSA D15 1211 (03/81)