

High Quality Plastic Coatings for audio and video parts using Elvacite® 2614

Formulation No : C1 – 12, Status Code A

(a) **Introduction** - This starting formulation is recommended for production of high quality plastic coatings on substrates such as ABS or HIPS.

(b) **Formulation**

Ingredients	w/w
Elvacite® 2614	63.0 (30% 2614 + 70% xylene)
BaSO ₄	17.5
Talc	17.5
Carbon Black	0.8
BYK-161	0.1
BYK-306	0.1
Aluminium Powder	<u>1.0</u>
	100.0

Properties of solution:

- (a) Non-volatile : 35.8%
- (b) Viscosity : This formulation gives 70-80 sec, Ford cup #4

(c) **Recommended Processing Procedure**

- (1) Dissolution of Elvacite® Resin 30% solid content w/w : 30% Elvacite® + 70% xylene. Roll until bead resins dissolve.
- (2) To make mill base:
 - (i) Add BYK-161 to carbon black + resin solution (1:1:3 by wt). Grind till well dispersed in 3-roll mill. (BYK-161 is used to wet & dispersed carbon black.)
 - (ii) Add aluminium powder to xylene at 1:1 by wt. Disperse well.
 - (iii) Add (i) to rest of pigments & filler + rest of resin solution. Grind in 3-roll mill until well dispersed to particle size of about 20 micron.
 - (iv) Add (ii) to (iii) + rest of ingredients. Blend well.

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- (3) During 3-roll milling, solvent will be evaporated. Hence after milling, check weight of mill base using total weight of ingredients used. Make up solvent loss by adding in more solvent (xylene) to (b) (iv). Blend well.

(d) Application Guidelines

- (i) Before spraying dilute with thinner to spray viscosity (about 25 sec, Ford Cup #4).
- (ii) Spray and dry for 60 min at 50°C.

Thinner

- (1) Under winter conditions whereby the air is drier, the following is recommended: Toluene: MEK : EAc at 2:1:1 If the substrate is bigger in size and hence lower boiling point thinner is needed for better flow, use Toluene: MEK : EAc : BAc at 2:1:1:1
- (2) During summer time the following thinner composition is recommended Xylene : MEK : BAc at 1:1:1 For solvent sensitive substrate (e.g. some type of ABS), add in a small amount of IPA to the above thinner.

(e) Film Properties

Film thickness (micron)	25
Pencil hardness	2H
Alcohol Resistance*	Excellent

* Alcohol Test

Alcohol : 99.9% ethanol

Substrate : ABS, PS

Crosshatch Adhesion : no removal for both ABS & PS substrates

100g weight, 50 times rub : minimal colour migration on both ABS & PS substrates

500g weight, 50 times rub : some colour migration on both ABS & PS substrates.

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