CRAY VALLEY

COATING RESINS

TECHNICAL DATA — SYNOLAC 154 S 65

SALES SPECIFICATION		OTHER PROPERTIES	
Non-volatile content, % @ 150°C	63-67	Volatile	3.4:1 Aromatic solvent 180-200:2-Butoxy ethanol
Viscosity (Ford Cup / B – 4), 30°C, Seconds (75 gm Resin + 25 gm ECA)	100 - 110	Flash point, °C	41
Maximum colour, Gardner scale (ISO 4630)	3	Hydroxyl value, mg KOH/g	50
Acid value, mg KOH/g (ISO 3682)	10 max.	Density	1.02

Note: Hydroxyl value quoted relative to solid resin.

PRODUCT INFORMATION

SYNOLAC 154 S65 is a low cost, linear oil free polyester developed for use in Coil Coating, sheet fed Metal Decorating and General Industrial applications.
Outstanding features of the resin include:

* Economy in use
* Excellent flexibility
* Good light fastness
* Good exterior durability
* Excellent stain resistance

RECOMMENDATIONS:

SYNOLAC 154 S 65 is compatible with a wide range of melamine resins and is typically used with hexamethoxymethyl melamines and partially methylated melamines.
For an optimum performance with respect to level of cure, flexibility, hardness and impact resistance, a combination of **SYNOLAC 154 S65** with hexamethoxymethyl melamine resin at ratio of 70:30 to 85:15 on solid resin content is suggested.
To promote cure, the use of between 1% and 5% of acid catalyst is recommended, e.g. paratoluene sulphonic acid, calculated on melamine solids.
Variation in the levels of **SYNOLAC 154 S65** and the type of amino resin will modify the overall performance characteristics of the coating. Increasing the level of amino resin (and catalyst) will generally tend to increase the hardness and solvent resistance of the coating but may compromise flexibility.
For Coil Coating applications a 85:15 to 80:20 ratio, on solids, with hexamethoxymethyl melamine resin is recommended with 2% pTSA catalyst on amino level.

For Metal Decorating formulations, a recommended blend, on solids, of 72:18:10 OFPE:melamine:epoxy resin (epoxy equ »500) with 2% pTSA solids amino is suitable.
Part methylated amino resin can be used in place of hexamethoxymethyl melamine and will develop very good hardness & solvent resistance but at the expense of flexibility.

Benzoguanamine resin can also be used to increase cure response and retortability.
General industrial enamels can be formulated with 70:30 to 80:20 ratios with hexamethoxymethyl melamines or part methylated melamine, with 2% pTSA catalyst.
Enamels based on **SYNOLAC 154 S65** exhibit good light fastness results after prolonged UV exposure and finishes are resistant to staining from a variety of household materials.

CURING SCHEDULES:
Coil Coating finishes based on **SYNOLAC 154 S65** can be cured using a peak metal temperature of 232°C - 240°C.
For Metal Decorating, a cure schedule of 10 minutes at 160 - 200°C depending on requirements is recommended; cure response will increase with temperature, but flexibility may be reduced with high levels of catalyst.
For General Industrial applications a baking schedule of 30 minutes at 150°C will be suitable.

SOLVENTS: Mixtures of high boiling aromatic hydrocarbons and glycol ether esters are appropriate for Coil Coating applications, aromatic hydrocarbons for Metal Decorating finishes and aromatic hydrocarbon/alcohol blends for General Industrial enamels.
SYNOLAC 154 S 65 should only be used in applications consistent with the above recommendations. Proposals to use the resin in other ways should be discussed with Cray Valley before any action is taken.

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