



FORMULATION OF GLOSSY EMULSION PAINT

ABSTRACT

Glossy-emulsion paint was prepared using the formulation: pigment dispersion (20g), PVAc (40g), Glycol (5g), Toluene (1g) and Diethylene (5g). It was found that not only is glass achieved using these formulations but also for maximum effects, the paint should be produced as low CPVC, high degree of pigment dispersion and enough quantity of alkyl resin incorporated. A simple designed and fabricated device used in this measurement can called Luminometer, a type of Luminometer that was used to monitor surface glossiness. This process to be reliable and handy.

Keywords: Glossy-emulsion, Toluene, Diethylene, PVAc, CPVC, Glycol and Paint.

INTRODUCTION

The surface of many object outside in the air and are damaged by the effect of weather and were often protected and taken care of. For example, iron roofs and wood structures in the atmosphere [1]. As many materials become available, the need to modify the surface continues to grow [2]. Many surfaces widely believed to be satisfactory without coating are actually attacked by weather, chemicals, atmospheric pollution or other factors and must be protected before certain uses. The wide variety of surfaces which must be protected and decorated has given rise to an infinite number of coating agents such as paints and varnishes not only to protect such surfaces but also to decorate them [3]. To embellish the surface an application and provides colour to it.

In the present investigation, the pigment system was basic titanium dioxide and calcium carbonate at a weight ratio of 3:1 respectively. Polyvinyl acetate and alkyl resin were used as binders. In number of cases, the gloss of paint has deteriorated properly.

This research investigates ways in which glossy emulsion paints can be enhanced. The present investigation was limited to testing the effects of degree of dispersion of pigment, degree of dryness of film and optical properties of binder on the gloss of formed glossy-emulsion paint.

Emulsion paints are not glossy enough for certain applications. The low degree of glossy-emulsion paints precludes its use in a number of applications. Therefore this project investigates ways in which the gloss of emulsion paints can be enhanced.

Factors that could affect the gloss of emulsion paints includes:

- (i) The degree of dispersion of pigmental used,
- (ii) The optical properties of binders, that is, light reflecting, refracting and scattering properties,
- (iii) The degree of dryness of film,
- (iv) The pigment: binder ratio.

The present investigation has involved valuable technical information about emulsion paint based on titanium dioxide/calcium carbonate and poly vinyl acetate.

1. The CPVC at a minimum binder: calcium carbonate ratio of 1:1 is 0.062 (6.2%).
2. As PVC values below the CPVC of 0.062 (6.2%), the gloss increases as the PVC is lowered.
3. The degree of dispersion varies with time of dispersion and influences the gloss of the paint. For time of dispersion varying from 30 minutes to 120 minutes, the gloss increases from 4 to 11.8 g/s.
4. Drying of film under a particular condition continues for 3 days with accompanying increase in gloss ranging from 5.4 to 10.4 g/s.
5. Incorporation of alkyl resin into polyvinyl acetate increases the gloss if both are used as binder.

Paint manufacturing involves bringing pigment particles and binders into close contacts to achieve thorough dispersion of the particles throughout the binder. Dispersion is the most important operation in paint factories, the remainder of plant operations are based on it. The degree of dispersion will depend on the type of paint manufactured and on the formulation and nature of the equipment used handle.

Paints are made up of three basic components as follows:

PIGMENT: The purpose of the pigment, from a decorative stand point is to embellish the surface over which the product is applied and

Formulation Of Glossy Emulsion Paint Experiment Journal

Christina Anderson



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Journal of the Oil & Colour Chemists' Association Oil and Colour Chemists' Association (Great Britain),1976

American Paint Journal ,1960 Applications of Synthetic Resin Latices, Latices in Surface Coatings - Emulsion

Paints H. Warson,C. A. Finch,2001-10-08 This volume discusses latices in surface coatings in regards to emulsion paints

These water based latices are playing a far greater role in many applications and match the growing concern over environmental safety This book is available separately or as part of a 3 volume set and offers an insight into the advances and developments in this field Describes the principles of the formulation manufacture and application properties of water based emulsion paints and related surface coatings Includes inter alia gloss and anti corrosion paints and electrocoating As a comprehensive account of the science of polymer latices these volumes are an invaluable resource for research workers and end users in academia and industry working on water based paints adhesives emulsions dispersions and coatings *Journal*

Oil and Colour Chemists' Association (Great Britain),1968

Waterborne: Environmentally Friendly Coating

Technologies James W. Rawlins ,Robson F. Storey,2013-03-12 Polymer and colloidal chemistry fabrication and testing of waterborne coatings PURs polyisocyanates acrylics vinyls and more Sustainable surfactants water soluble catalysts high throughput rheology pigments This series volume contains 34 original papers on the chemistry and formulation of waterborne coatings Chapters cover UV curing testing and applications in many areas of latex paints grouting and varnishes The book discusses advances in curing adhesion superhydrophobic coatings and additives with special attention to sustainable materials and methods The Experimental Darkroom Christina Anderson,2022-10-03 The Experimental

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James W. Rawlins, Robson F. Storey, 2014-06-16 Advanced chemistries for improving coatings properties and performance New technologies for additives dispersants pigments and multifunctional coatings Continuing a series the present volume comprises a selection of 31 original research papers from industry and academia on the chemistry and formulation of technical coatings beginning with keynote discussions of the meaning of glass transition and POSS The book offers guidance to performance improvements by chemical modification of additives dispersants and cross linkers as well as new approaches using nanomaterials graphene and polymer brush chemistry Attention is given to VOC reduction enhanced hiding capacity weatherability dispersion and more **International Painting & Decorating Journal** ,1961 **Paint Manufacture** ,1975 **Emulsion-based Free-Radical Retrograde-Precipitation Polymerization** Gerard Caneba, Yadunandan Dar, 2011-07-02 This monograph is a follow up material to the first FRRPP book by Gerard Caneba in 2009 It includes additional conceptual results implementation of the FRRPP process in emulsion media to produce various block copolymers and other FRRPP related supplementary topics Conceptual topics include the application of the quantitative analysis presented in the first FRRPP monograph for the occurrence of the FRRPP process to the polystyrene styrene ether PS S Ether and poly methacrylic acid methacrylic acid water PMAA MAA Water systems as well as extensions through unsteady state analysis of the occurrence of flat temperature profiles Also the generalization of the quantitative analysis is done to consider molecular weight effects especially based on changes of the phase envelope to an hourglass type Topics in implementation of the FRRPP process from pre emulsions of monomers and the solvent precipitant are highlighted Additional FRRPP topics are included in this monograph that pertain to more recent efforts of Gerard Caneba such as oil spill control oil dispersant system and caustic sludge remediation from emulsion based FRRPP materials hydrolysis of vinyl acetate acrylic acid based copolymers and other polymer modification studies from FRRPP based emulsions Review of Current Literature on the Paint and Allied Industries ,1968 *Modern Paints Uncovered* ,2007 Paint formulations and history Analysis and characterization Treatments Cleaning issues Behavior and properties Posters Paint, Oil and Chemical Review ,1956 *PVP.* ,1971 *Paint and Varnish Production* ,1962 **University of Florida Training Reactor Hazards Summary Report** James Moyer Duncan, Merrill Joseph Roberts, University of Florida. Department of Civil Engineering, 1957 The Chemical Trade Journal and Chemical Engineer ,1957 Convention-at-home Daily ,1971 Covers the conventions of the Federation of paint and varnish production clubs and of the National paint varnish and lacquer association **Emulsion Polymerisation and Latex Applications** Christopher D. Anderson, Eric S. Daniels, 2003 The term latex covers emulsion polymers polymer dispersions and polymer colloids This review report provides a general overview of the emulsion polymerisation processes and explains how the resulting latices are used in industrial applications The classes of emulsion polymers are surveyed and the commercial technologies and potential future uses discussed An additional indexed section containing several hundred abstracts from the Polymer Library gives useful references for further reading **Paint and**

Surface Coatings R Lambourne, T A Strivens, 1999-08-23 This second edition of an established and well received book has been carefully revised in many instances by the original authors and enlarged by the addition of two completely new chapters. These deal with the use of computers in the paint industry and with the increasingly important subject of health and safety. The chapter on pigments has also been re-written by an author new to this edition. It was the editor's intention in the first edition to provide science graduates entering the paint industry with a bridge between academia and the applied science and technology of paints. The great strength and appeal of this book remains that it deals with the technology of paints and surface coatings while also providing a basic understanding of the chemistry and physics of coatings. Extensive revision of first edition. New chapter on computers and modelling. New chapter on health and safety.

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