

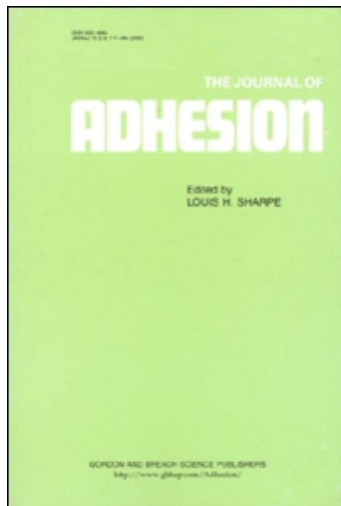
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Publisher *Taylor & Francis*

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The Journal of Adhesion

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713453635>

To cite this Article (1994) ", The Journal of Adhesion, 44: 1, 147 – 154

To link to this Article: DOI: 10.1080/00218469408026622

URL: <http://dx.doi.org/10.1080/00218469408026622>

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Study on the Adhesive Based on EVA Emulsion for PP Laminated Films

Li Ping, Fu Yongxin, Liang Aixia, and Chen Hongfang

(Jiangsu Institute of Chemical Technology)

Abstract

The adhesive formulations composed of EVA emulsion and butyl rubber and technology for PP laminated films were researched. The effect of the kinds and quantity of tackifiers, the quantity of the butyl rubber, coating quantity of the adhesive, laminating pressures, temperatures and times of cure on the peeling strength of PP laminated films were discussed. It was shown that adhesion forces of the adhesive reached and exceeded even the breaking strength of PP films, in the paper.

KEY WORDS EVA Emulsion Adhesive, PP Laminated Films, Bonding.

A Study on α , ω -bi (methyl diallylsilyl)-polydimethylsiloxane

Yang Weisheng and Mao Xiaoli

Abstract

New kinds of addition—reaction curing silicone rubber based on α , ω -bi (methyl diallylsilyl) polydimethylsiloxane (MDAS silicone rubber) have been prepared. In comparison with the vinyl-based ARC silicone rubber, the MDAS silicone rubber shows a good adhesive property to many kinds of materials (especially to metals). On the other hand, the MDAS-Pt curing system is not sensitive to various impurities which retard or inhibit the curing of vinyl-based ARC silicone rubber. The above properties are significant to many applications. Some factors of the curing of MDAS were also discussed.

KEY WORDS Silicone Rubber, α , ω -bi (methyl diallylsilyl) polydimethyl-siloxane, Cure, MDAS Silicone Rubber.

**Studies about the Comprehensive Utilization of the Waste Polystyrene:
The Preparation of PSF Adhesive**

Chen Zhen, Wang Meimei, Huang Jiahong, Xie Xiling, and Guo Linxuan

(Department of Chemistry, Fujian Teacher's College)

Abstract

This paper deals with the influence of various solvents on the bonding effects of PSF adhesives by means of thermogravimetries, TG and TDA. The test results show that modification effects of ethanoic acid and ethyl ester are obviously superior to those of various nonpolarity organic solvents.

KEY WORDS PSF Plastic, TG, TDA, SEM, Adhesive.

**The Preparation of Copolymerized Vinyl Acetate & Acrylic Ester Emulsion
and the Relationship of its Cohesive Force with this System's Components**

Jiang Huansheng, Jiang Yanxia, Jiang Yantong, and Guo Wenfeng

Abstract

The performance difference of two kinds of copolymer emulsion VAC/MMA and VAC/BA/MMA is compared by experiment. And it demonstrates the effect of the copolymer system's component number on the product's performance.

KEY WORDS Copolymer Emulsion, Two-Component Emulsion Copolymerization, Three-Component Emulsion Copolymerization, Cohesive Force.

**A Research into the Formulation of Pressure Sensitive Adhesive
and Precoating of PVC Adhesive Tape**

Li Dayan, Zhang Lin, Ma Hongwei, and Mao Ying

(Institute of Southwest Nucleus—Physics and Chemicals)

Abstract

The article deals with the formulation of pressure sensitive adhesive and precoating of PVC adhesive tape. The qualities, such as adhesive strength and so on, of chloroprene rubber precoating have been improved substantially by introducing modifiers, such as silane coupling agent and chlorinated polyvinyl chloride resins. The principal factors influencing the properties of the adhesive are discussed and the preparation procedures are determined. Mass production has been realized.

KEY WORDS Adhesive Tape, Precoating & Pressure Sensitive Adhesive, Natural Rubber, Chloropene Rubber.

The Efficient Adhesive Promotion of Silane Coupling Agent on Epoxy Resins

Cao Yongxing, Zhou Qingli, and Jiang Rong

(Department of Chemistry, Nanjing University)

Wang Kang and Zhou Hua

(Kangda Chemical Plant, Jiangsu Liyang)

Abstract

This paper described silane coupling agents which appeared efficient for adhesive promotion in two component epoxy resins.

It was discovered that the adhesive promotion of α -carbon functional group silane coupling agents was more effective than that of the γ -one.

KEY WORDS Coupling Agent, Epoxy Resins, Efficient Adhesive Promotion.

Contents Lists and Abstracts from the China Journal "Technology on Adhesion & Sealing"

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Surface Modification of Fluorinated Polymers by Microwave Plasmas

Tomoyuki Kasemura, Shuichi Ozawa, and Kiyomi Hattori

(Department of Applied Chemistry, Faculty of Engineering, Gifu University,

1-1 Yanagido, Gifu-shi 501-11, Japan)

Abstract

We developed a new plasma treating method, incorporating the use of microwaves generated by an electronic cooking range. Using this method, polytetrafluoroethylene (PTFE) and a copolymer of tetrafluoroethylene and hexafluoropropylene (FEP) were treated. Dialkylphthalates (DAP) were used as the standard liquids of contact angle measurements for evaluation of the wetting properties of plasma treated polymers. The components of surface tension (γ_L) due to the dispersion force (γ_L^d) and the polar force (γ_L^p) of DAP were calculated by Fowkes' equation from the contact angles (θ) on polypropylene. After plasma treatment $\cos\theta$ of several standard liquids on PTFE and FEP increased. The linear relationship between $\gamma_L (1+\cos\theta) / (\gamma_L^d)^{1/2}$ and $(\gamma_L^p/\gamma_L^d)^{1/2}$ was verified. γ_s and γ_s^d and γ_s^p of the plasma treated PTFE and FEP also increased. From the results of ESCA analysis, it was found that a significant amount of oxygen was introduced to the polymer surface by the plasma treatment. Peel strengths of a pressure sensitive adhesive bonded to PTFE and FEP increased approximately two-to threefold if the plasma treatment was used prior to bonding.

KEY WORDS Fluorinated Polymers, Microwave Plasmas, Surface Modification, Contact Angles, Wetting, Peel Strength.

Discussion on the Gluing Mechanism of Inorganic Adhesive YW-1

He Xiaoxuan

(Institute of Adhesion Technology, Yunnan College of Technology)

Abstract

This paper inquired deeply into the reason for being high strength in the putting inside adhesion of YW-1 inorganic adhesive from the chemical, physical and mechanical standpoint.

KEY WORDS Inorganic Adhesive Agent, Putting-Inside Adhesion, Compressive Shear Strength.

Core-Shell Emulsion Polymerization of Methyl Acrylate on Polyethyl Acetate

Gao Jungang, Fan Rong, and Li Xiaobu

(Department of Chemistry, Hebei University)

Abstract

The core-shell emulsion grafting reaction of methyl acrylate on polyethyl acetate was investigated as a function of (a) initiator concentration used in the secondary polymerization, (b), monomer to polymer ratio and (c), emulsifier concentration. The amount of graft polymer was found to decrease with increasing monomer to polymer ratio and degree of conversion. The amount of grafting increased with increasing surface area of the seed latex.

KEY WORDS Methyl Acrylate, Polyethylacetate, Core-Shell Emulsion, Polymerization.

Epoxy Resin Hardener

Yang Baowu

(Tianjing Organic Chemical Engineering Test Plant)

Abstract

This paper introduces and details two kinds of hardeners of epoxy resin.

KEY WORDS Epoxy Resin, Hardener.

Catalysts for Phenolic Resins

Zhao Peng, Su Guoxun, and Cao Wenlong

(Department of Casting, Centre China University of Technology)

Abstract

Various catalysts were investigated in this article in terms of the strength of phenolic resin bonded sand. The behaviour of the catalysts for the resins was discussed. A method of evaluation of the efficiency of the catalysts was proposed. A series of new kinds of phenolic catalysts were given firstly in this paper. They could eliminate the irritating odour during sand mix preparation and decrease smoke evolved from phenolic resin bonded sand when pouring molten metals.

KEY WORDS Phenolic Resin, Catalyst, Catalytic Mechanism.

Development and Application of an Adhesive for Repairing Refrigerator

Yang Xiaofeng, Hong Yantao, and Liu Zongzheng

(Stated-owned 782 Factory)

Abstract

This paper describes development and application of an adhesive, CL-23, based on epoxy resin. This adhesive is suitable for repairing leaks in refrigerators with its excellent performance in solvent resistance, impact resistance and high-low temperature alteration resistance.

KEY WORDS Modified Epoxy Resin, Leaky Refrigerator, Adhesive Repairing.