ADHESIVES, SEALANTS, AND COATINGS FOR THE ELECTRONICS INDUSTRY

by

Ernest W. Flick

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PREFACE

This edition contains descriptions of more than 1,600 up-to-date contemporary adhesives, sealants, coatings and other products which are available to the electronics and related industries. It will be of value to industry technical and managerial personnel involved in the manufacture of the final products, as well as to those companies which supply raw materials or services to electronics manufacturers.

The data consist of selections of manufacturers' literature made at no cost to, nor influence from, the makers or distributors of these materials.

The table of contents is organized in such a way as to serve as a subject index.

My fullest appreciation is expressed to the companies and organizations who supplied the information for this book. All of their addresses are listed in Section II.

Newburyport, Massachusetts
January, 1986

Ernest W. Flick

INTRODUCTION

This book is a collection of more than 1,600 contemporary adhesives, sealants, coatings and related products, which are available to the electronics and related industries. It is the result of information received from numerous industrial companies and other organizations. The data represent selections from manufacturers' descriptions made at no cost to, nor influence from, the makers or distributors of these materials. Only the most recent information has been included. It is believed that all of the products listed here are currently available, which will be of utmost interest to readers concerned with product discontinuances.

Companies are listed alphabetically by name and their products listed in alphabetical order. The reader seeking a product for a specific end use will have numerous selections, in most cases.

In addition to the above, there is a section which lists the main office addresses of the suppliers whose products are listed in this book.

Each product in this book lists the following information, which has been standardized as much as possible:

(1) Company name and product category as the heading of the page.

(2) Tradenames, if applicable.

(3) Product number. If a catalyst is used, it appears after the colon. (The next numbers in parentheses represent the product: catalyst ratio by weight.)

(4) Product description: A description of the product's main features, as described by the supplier. Typical end uses may also be included.

CONTENTS AND SUBJECT INDEX

Section I

Adhesives, Sealants, and Coatings

ABLESTIK:Ablebond Adhesives for the Microelectronics Industry:

Electrically Conductive:
36-2:
Product Description: Single component, solvent-free, silver filled epoxy designed for chip bonding in hybrids. Suitable for application by screen printing or hand probe.

58-1:
Product Description: Gold filled version of 36-2.

71-1LMI:
Product Description: Low mobile ion, silver filled polyimide adhesive for semiconductor die attach. Cl^- content <10 ppm. Na^+ and K^+ content <5 ppm. May be applied by stamping or screening.

84-1LMI:
Product Description: Silver filled, solvent-free epoxy for microelectronic chip bonding. Cl^-, Na^+, K^+ <5ppm. Low outgassing. May be applied by automatic dispenser, screening or hand probe.

88-1:
Product Description: Silver filled, two component epoxy designed for microcircuit applications which require electrical conductivity and low cure temperature.

826-1:
Product Description: Silver filled, solvent-free epoxy formulated for semiconductor die attach. Provides strong bonds during thermal compression wire bonding. Suitable for application by stamping or automatic dispenser.

843-1:
Product Description: Solvent-free, silver filled low mobile ion epoxy for semiconductor die attach. Cl^- and K^+ content <5 ppm. Designed to withstand thermal compression wire bonding temperatures. May be applied by stamping or automatic dispenser.

941-3:
Product Description: Silver filled, epoxy for semiconductor die attach. High Tg provides excellent thermal stability. Cl^-, Na^+, and K^+ <10 ppm. B-stageable via removal of solvent.

Electrically Insulating:
789-4:
Product Description: Designed for substrate attach where thermal conductivity is required. Excellent adhesion to difficult-to-bond metals.

843-4:
Product Description: Hybrid grade, insulating adhesive.

ABLESTIK:Ablefilm Epoxy Adhesive Preforms:

Electrically Insulating:

550:
Product Description: 6 months working life. Designed for substrate attach and sealing of micro-electronic packages. Provides exceptionally high bond strength to gold, nickel and other materials. Exhibits long work life at R.T.

550K:
Product Description: 6 months working life. Electrically insulating, thermally conductive version of Ablefilm 550.

561:
Product Description: 3 months working life. Flexible adhesive designed for bonding severely mismatched adherends, such as metal and glass.

561K:
Product Description: 3 months working life. Electrically insulating, thermally conductive version of Ablefilm 561.

517:
Product Description: 24 hours working life. Microelectronics adhesive especially suited for bonding substrates in ceramic packages. Features low outgassing and cures at temperatures as low as 75C.

529:
Product Description: 2 weeks working life. Designed for substrate attach and sealing of microelectronic packages which require resistance to high humidity. Retains its high bond strength after exposure to temperatures as high as 300C.

501:
Product Description: 24 hours working life. General purpose grade adhesive designed to cure as low as 75C.

Electrically Conductive·

ECF550:
Product Description: 6 months working life. Silver filled, electrically conductive version of Ablefilm 550.

ECF550C:
Product Description: 6 months working life. Copper filled, electrically conductive version of Ablefilm 550.

ECF561:
Product Description: 3 months working life. Silver filled, electrically conductive version of Ablefilm 561.

ECF561C:
Product Description: 3 months working life. Copper filled, electrically conductive version of Ablefilm 561.

AMBROID: Liquid Adhesives:

Regular Ambroid:
Product Description: Transparent amber with other colors available with mildewcide and tracer. Non-toxic. Fast drying time. 36F TOC.

Special EC Ambroid:
Product Description: Transparent amber with other colors available with mildewcide and tracer. Non-toxic. Fast drying time. 69F TOC.

Special CA Ambroid:
Product Description: Transparent amber with other colors available with mildewcide and tracer. Non-toxic. Very fast drying time. 15F TOC..

Product Description(All Grades): Widely used in the electronics industry for general assembly work, waterproofing and the like. Based on cellulose resins and dry to hard, tough films by evaporation of solvents. No catalysts or curing agents are required. Fast drying, reaching 25% of ultimate strength in 2 hours (if joining porous materials) and total ultimate strength in 24 hours at room temperature.
In addition to those cements outlined, a wide variety of special cements are available for special end uses.