Albi

1. Product Name
ALBI CLAD Intumescent Fireproofing Systems

2. Manufacturer
Albi Manufacturing
Division of StanChem, Inc.

3. Product Description
ALBI CLAD systems are intumescent coatings applied directly to structural steel, concrete and other construction materials for purposes of fire protection.

BASIC USE

ALBI CLAD is used wherever long-lasting, durable, abrasion-resistant fireproofing is required. It provides maximum fire protection with minimum thickness application.

ALBI CLAD is specified in many institutional and industrial buildings because of its hammer hard surface and ability to withstand heavy abuse and vibration. Such installations include manufacturing facilities, warehouses, gymnasiums, auditoriums and vocational training areas.

ALBI CLAD has been widely used for fire protection of pipe rack supports, structural framing and vessel skirts in the petroleum and petrochemical industries. It has withstood exposure to all types of extreme climactic conditions on facilities around the world.

ALBI CLAD is used on commercial buildings where the design calls for a thin, smooth finished fireproofing which maintains the contours of the substrate. It has been used on exposed steel in atriums, on tubular trusses, historic cast iron columns and glazed escape stairways. It is also specified for fire protection in areas where there are severe space limitations.

COMPOSITION & MATERIALS

ALBI CLAD systems are proprietary formulations consisting of heavy bodied resins, binders, intumescent agents and reinforcing inorganic fibers. ALBI CLAD systems contain no asbestos.

ALBI CLAD solvent based and water-based systems are offered in 2 formulations to suit the end-use desired:

- ALBI CLAD 800 - Solvent based; intended for interior or exterior application to exposed structural steel in demanding environments. ALBI CLAD 800 provides an attractive smooth white surface which can be easily topcoated.
- ALBI CLAD TF - Water based; intended for interior application wherever fireproofing material is to be left exposed. Use where thin film, smooth surfaced, architectural finish is required.

ALBI 487S phenolic modified alkyd primer and 490W rust inhibiting acrylic primer are recommended for use with ALBI CLAD materials under most conditions.

PACKAGING

ALBI CLAD systems are shipped to the job site ready to apply directly from the container. ALBI CLAD systems and ALBI primers are shipped in 55 U.S. gallon (208 L) drums or 5 U.S. gallon (19 L) pails.

TEXTURES & FINISHES

Spray application of ALBI CLAD TF results in a smooth finish. Spray application of ALBI CLAD 800 results in a slightly textured finish. Manufacturer recommends that ALBI CLAD 800 be lightly rolled prior to the drying of surface film in order to remove unsightly sags or surface irregularity.

COLORS

ALBI CLAD comes in a natural off-white finish. For special color finish ALBI CLAD can be top coated with a wide range of coatings. ALBI Manufacturing produces several compatible fire inert top coats in a range of colors. Consult manufacturer for recommendations.

LIMITATIONS

ALBI CLAD 800 systems is a solvent based system. The solvents in ALBI CLAD 800 systems will attack some primers, resulting in poor adhesion. It is important to specify metal primers that are compatible with ALBI CLAD 800. On previously painted or primed surfaces, it is necessary to check for compatibility prior to the application of ALBI CLAD 800.

Observe standard red label precautions when using ALBI CLAD 800 solvent based systems. The product contains solvent mixtures and must be protected from open flame. Fire extinguishing equipment should be available during installation. Adequate ventilation must be provided to prevent buildup of vapor concentrations in confined locations. Fresh air hoods or blowers must be provided during application to insure safe operating conditions.

ALBI CLAD 800 systems should not be applied inside occupied buildings. For such conditions consider the use of ALBI CLAD TF.

4. Technical Data

APPLICABLE STANDARD

American Society for Testing & Materials (ASTM)

- ASTM D256 Standard Test Method for Determining the Izod Pendulum Impact Resistance of Plastics
- ASTM D695 Standard Test Method for Compressive Properties of Rigid Plastics
- ASTM D4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials

British Standards (BS) - BS 476 Fire Tests on Building Materials & Structures

Underwriters Laboratories, Inc. (UL)

- UL 1709 Rapid Rise Fire Test of Protection Materials for Structural Steel
- UL *Fire Resistance Directory*

FIRE RATINGS

ALBI CLAD systems have been tested extensively by agencies worldwide, including UL, Factory Mutual (FM), FIRTO, and Warrington. ALBI CLAD systems have been tested to a variety of different fire exposures including the ASTM E119 and BS 476 curves, as well as high intensity tests such as the Mobil Hydrocarbon test and UL 1709.

ALBI CLAD systems are listed in the UL Fire Resistance Directory. ALBI CLAD systems are listed for up to 3 hour protection of columns under design numbers X601, X602, X604,

X606, X615, X625, X626, X628, XR607, XR608 and XR609. ALBI CLAD systems are also listed for up to 2 hour protection of beams under design numbers N601, N602, N603 and N604. Certain of these UL design numbers allow the use of direct contour application or boxed configurations for both columns and beams. Consult manufacturer for latest UL column, beam and floor assembly ratings.

Research papers published by the Portland Cement Association indicate that the application of ALBI CLAD to the undersurface of concrete slabs will extend the fire rating of the composite system up to an additional 2 hours.

BUILDING CODES

Approval of ALBI CLAD has been granted by authorities in areas governed by building codes. In addition, ALBI CLAD has been accepted by major insurance rating organizations.

FIRE HAZARD CLASSIFICATION

ASTM E84 Test - Class A rating

- Flamespread - <25
- Smoke developed - <50

PHYSICAL PROPERTIES

ALBI CLAD systems exhibit similar physical properties as outlined below. Specific figures given for ALBI CLAD 800.

- Dry applied density - 68 pcf (1103 kg/m^3)
- Bond strength to steel - ASTM D4541; >375 psi (2.6 MPa)
- Compressive strength - ASTM D695; 2100 psi (14.5 MPa)
- Impact resistance - ASTM D256; 0.54 ft-lb/in of notch (2.4 N/mm)

PHYSICAL CHARACTERISTICS

ALBI CLAD resists impact, abrasion, vibration, flexure and similar physical abuse. It cures to a hard dense film which will not dust, spell or flake, and is resilient enough to permit expansion and contraction of substrate without cracking or spalling.

ALBI CLAD has been subjected to LNG spills and has not shown any deleterious effect due to cryogenic shock. ALBI CLAD has also been subjected to high intensity hydrocarbon spill fire exposure and has withstood the severe high temperature thermal shock without cracking or spalling.

CHEMICAL RESISTANCE

ALBI CLAD has been exposed under actual field conditions to varied chemical and fuel spill environments throughout the petrochemical industry and has demonstrated outstanding resistance to chemical fume attack.

DRYING/CURING TIME

ALBI CLAD products typically dry to the touch within 15 – 30 minutes. Curing time to completely disperse occluded solvents or water is determined by thickness of application and environmental conditions.

5. Installation

ALBI CLAD is applied only by qualified, factory trained applicators. Installation shall be in accordance with manufacturer's printed instructions and in compliance with specific test requirements. Contact manufacturer for a list of recommended qualified applicators.

SURFACE PREPARATION

Surfaces to receive ALBI CLAD must be clean, dry and free of mill scale, loose rust, dirt, grease and oil. Priming is recommended for all environments. The primer must be compatible with ALBI CLAD. Use ALBI 487S, 490W or other compatible primers possessing equal protective properties.

On new or existing work, where substrate is already primed, check compatibility of ALBI CLAD by installing a sample area to determine interface bonding characteristics. Contact manufacturer for test procedure.

METHOD

ALBI CLAD 800 is spray applied directly from the shipping container utilizing standard, heavy duty, pneumatic spray equipment. ALBI CLAD TF utilizes airless spray equipment. Thickness of the application will depend upon the fire endurance rating specified.

Architect's or Owner's approval of an applied sample, large enough to provide a guide to the acceptability of the finished work, should be part of the specifications and contract documents. The completed project must match the thickness and texture of the approved sample.

6. Availability & Cost

AVAILABILITY

Available throughout the U.S. from ALBI Manufacturing, in East Berlin, CT, ALBI CLAD is marketed throughout the world. In some countries, including the U.K. and Germany, the material is sold under the trademark CITEX CLAD through the wholly-owned subsidiary Citex, Ltd.

COST

For cost information, published price lists and approved applicators, contact Albi Manufacturing.

7. Warranty

ALBI offers a limited warranty providing for replacement of defective material, limited to the cost of the material. Copies of the warranty are available for review.

Approved ALBI applicators provide a 1 year limited material and workmanship warranty.

8. Maintenance

Cracks, nicks or dents caused by human or machine abuse can be repaired easily by hand using a putty knife.

When used to upgrade existing fire rating requirements or in plant additions, ALBI CLAD can be applied directly to existing ALBI CLAD surfaces, or to new additional structures.

9. Technical Services

Complete technical information, test reports and literature are available from manufacturer. For design assistance, code and insurance information and specific technical services, contact Albi Manufacturing Technical Department.

10. Filing Systems

- First Source for Products
- Sweet's General Building & Renovation Catalog File
- Sweet's International Catalog File
- SweetSource
- Additional product information is available from the manufacturer.