

Galvanizing, Coatings and Fire Protection

A/D Fire Protection Systems

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Manufacturer of passive fire-protection products for the construction industry including, A/D FIRE-FILM II decorative thin-film intumescent fire-resistant coating for structural steel, the A/D FIREBARRIER line of fire-stopping materials and, A/D Southwest Types 5, 7 and 1 conventional sprayed fire resistive materials.

Albi Manufacturing division of StanChem, Inc.

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When your architectural design calls for exposed structural steel, your fire-protection shouldn't steal the show. Albi Clad materials are thin, intumescent mastics that retain the architectural aesthetics of your designs and provide durable fire protection. Albi Clad products pass ULs accelerated, simulated environmental tests without a topcoat. Albi Clad 800 intumescent coating protects both internal and external structural steel, concrete and other construction materials from fire. Albi Clad TF (Thin Film) is a water-based intumescent material for interior structural steel. Albi DriClad offers fire-safety properties and is supplied as 4' x 6' boards.

American Galvanizers Association

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The American Galvanizers Association (AGA) provides information on innovative applications and technological developments in hot-dip galvanizing for corrosion protection. Created to educate and train in the specification and use of hot-dip galvanized steel, the AGA maintains a large technical library, distributes industry publications, offers free, accredited educational seminars, and provides free technical support to the specifying community. American Galvanizers Association members are located throughout the United States, Canada, Mexico, and the world.

Aztec Galvanizing Services

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Aztec Galvanizing Services, a division of AZZ Incorporated, owns and operates 11 hot-dip galvanizing plants in the South and Southwest, with kettles ranging from 25' to 58' in length. Aztec's network accommodates large projects with customized turnaround times at a competitive price.

Brite Zinc, division of Weld-Aid Products, Inc.

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Tony@weldaid.com
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Weld-Aid Products, Inc., offers Brite Zinc, a ready-to-apply, organic zinc compound with 70% zinc dust in the dry film. It meets requirements of DOD-P-21035A, and other specifications. Brite is a solution for repairing hot-dipped galvanized metals. It stops rust, it has a color match to galvanized metal, and it is paintable. After preparing a metal surface, Brite Zinc can be brushed or sprayed for galvanic-action rust-prevention. Brite Zinc is now available in retail outlets.

Carboline Company

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www.carboline.com

Established in 1947, Carboline has been supplying permanent coating systems for bridge and other structural steel projects for more than 50 years. Approved in more than 40 state specifications, Carboline provides specification and on-site assistance. Product trademarks include Carbozinc, Rustbond, Carbomastic, Carbothane, Carboguard, Carboxane, and a dozen others. Numerous "Quick-Turn" shop systems and in-the-field "Rapid Deployment" systems save time and money.

Cortec Corporation

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Cortec's GalvaCorr™ is a three-component, moisture-curing, zinc-rich urethane coating. It can be quickly applied by spray, brush or roller. It elimi-

nates the need for expensive external power sources for corrosion protection. It provides protection to concrete structures to counteract aggressive corrosive attack to steel rebar. With a high-solid, zinc-rich formulation, the coating offers five to seven years of cathodic protection.

The Duncan Group

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Duncan Galvanizing provides state-of-the-art high-tech finishes for applications like galvanizing, black steel, aluminum or virtually any substrate. Duragalv provides enhanced hot-dip galvanizing for steel. It's a blend of environmentally friendly high-grade zinc combined with processing systems to maximize steel aesthetics. Colorshield is a thin, translucent polymer coating that allows some spangle of zinc to show through. Primergalv is a factory-applied universal primer for freshly galvanized steel which is to receive a field-applied topcoat. Colorgalv is a patented factory-applied architectural color finish for hot-dip galvanized steel. Duncan Thermoset is a dry-applied polyester material. Duncan Thermoplex is a dry-applied thermoplastic coating heat-cured to form a durable, thick, soft-feeling coating.

Elcometer Inc.

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www.elcometer.com



For more than 50 years, Elcometer has manufactured and supplied inspection equipment to the coating industry. The Elcometer Catalogue provides technical content so you can quickly and accurately identify your needs for field and laboratory use. In addition to test methods and instrumentation for quality control of surface coatings, Elcometer now offers concrete and physical test equipment.

Grace Construction Products

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Philip.Zanghi@grace.com
www.graceconstruction.com

Monokote® MK-6®/HY® Extended Set™ fire protection increases applicator productivity and minimizes the impact of fire protection on the construction schedule. This single-component, mill-mixed, cementitious fire-protection plaster has a delayed-set feature so it can be left unattended in the delivery

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system for up to four days. At the jobsite, water is added to form a consistent, pumpable slurry and Monokote® Accelerator is injected to achieve fast-set, high-production results. MK-6/HY Extended Set is approved for structural steel columns, beams, joists, trusses and floors, and roof decking. It is listed in the UL Fire Resistance Directory.

Industrial Galvanizers

**3535 Halifax Road
Petersburg, VA 23805
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**1445 Old Dunbar Road
West Columbia, SC 29172
Ph: 877.254.0020**

**475 Dietrich Rd
Steele, AL 35987
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**9520 E Broadway Ave
Tampa, FL 33619
Ph: 800.776.4258**

**3350 NW 119th Street
Miami, FL 33167
Ph: 877.888.4258**

Industrial Galvanizers provides galvanizing at worldwide job sites. U.S. operations actively galvanize materials using the PERMAGAL coating, providing zinc coatings for extended corrosion resistance. Also, the products division manufactures galvanized lintels and supplies sound wall products. Plants are environmentally friendly. Industrial Galvanizers' consultants are available to assist customers, engineers and specifiers in determining the best design, enhancing surface appearance and providing corrosion-resistant coatings. The research and development department constantly improves galvanizing processes and techniques. Training programs, products, and opportunities are provided for customers. Industrial Galvanizers can develop a program to fit the needs of your company.

Integument Technologies, Inc.

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Integument Technologies develops and manufactures engineered fluoropolymer systems of linings, films and coatings for corrosion protection and extreme environments. Applications include fluoropolymer films and coatings for expansion joints-cracks, pipe/tape wraps, specialty coatings and linings for containment-tank applications and aerospace lightning-strike protection, and paint-replacement. Proprietary technologies include plasma surface treatment, composite system designs and welding processes.

productcasestudy

Puget Sound Ferry Terminals

As more engineers/designers take advantage of the strength and appearance of fabricated pipe structures, robotic saddle and hole-cutting machines increasingly are being used for the construction projects such as offshore construction, oil production platforms, airline terminals, sports arenas, convention centers, museums, and buildings requiring earthquake seismic considerations.

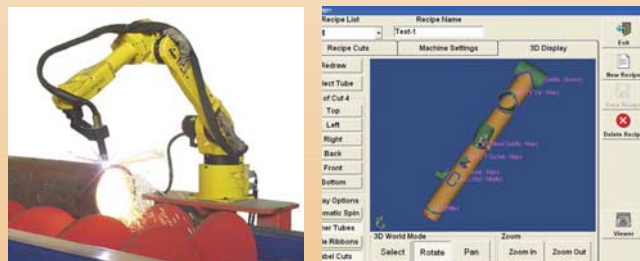
Pipe structures that require contoured profiles to be cut and ground by hand are labor intensive. They are slow to cut, with many cutting irregularities in critical weld-prep joint areas. **Jesse Engineering Company** recently introduced a new **(SHC-R) Robotic Saddle & Hole Cutting** machine designed for the pipe-fabricating industry. The Saddle & Hole Cutting machine's Color Touch Screen Operator Interface provides simple entry of pipe data and type of cuts required. The software requires an industrial PC running Windows XP Pro with an Ethernet connection to the Office PC network. Since the software runs on an office PC, you can program off-line or directly on the control station.

The results are accurate, complex, contoured cuts, that are beveled with speed, accuracy, no irregularities and no grinding required. Accurate fit-up and high-quality finished parts yield labor-cost savings. Specifically:

- Up to 75% savings in layout time.
- Up to 40% savings in actual cutting time.
- Range of 30%-40% savings in fit-up and welding time.

One example was a project that consisted of a fabricated-pipe structure for Ferry Terminals around the Puget Sound area. The pipes are used to deflect the Ferry during its maneuvering to the dock. AISC-member Jesse Engineering's Fabrication Division required pipe-fabricated structures with complex contoured profiles and critical weld joints. They used the Robotic Saddle & Hole Cutting Machine to make each 50,000-lb unit (25 Tons). All of the pipe connections were cut on the SHC-R, providing fit-up and welding savings as well a high quality finished product. The time and labor-cost savings using the SHC-R has helped to be competitive in winning such work. For more information on the project or on the (SHC-R) Robotic Saddle & Hole Cutting machine, please visit

www.JesseEngineering.com. ★



Above left: the SHC-R Robotic Saddle & Hole Cutter cuts a pipe section. Above right: The Color Touch Screen Operator Interface provides simple entry of pipe data and type of cuts required



Above and below: The completed pipe racks head to their final destination.



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Isolatek International

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ISOLATEK INTERNATIONAL offers a broad selection of fire-protection products, including thin-film intumescent coatings and rigid-board fire-protection systems. Isolatek's fire-protective materials combine fire-protection and physical performance characteristics. CAFCO SprayFilm® intumescent coatings allow architects to design using exposed steel that can be decorative and durable. CAFCO SprayFilm can be color top-coated to match surroundings, and left exposed with the required fire-resistance rating.

ITW Devcon Futura Coatings

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 www.futuracoatings.com



ITW Devcon Futura Coatings offers room-temperature-curing protective coatings in sprayable, trowelable, and brushable formulations. They protect against chemicals, corrosion, high temperatures, impact, and abrasion. The company's network of engineers handles specific problems. Products include Iraseal 200, a resilient polyurea coating to protect surfaces subject to long-term immersion and weathering; Irathane 155, a polyurethane coating with a high-slip finish for protecting dry-material screens, bins, hoppers and tanks; and VE 9300, a glass-flake novolac vinyl ester lining system that withstands long-term exposure to caustic gases in applications such as flu-gas desulfurization.

Metal Coatings International Inc.

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 www.metal-coatings.com

DACROMET® and GEOMET® are thin, water-based, corrosion-resistant coatings composed primarily of Zinc and Aluminum flakes. These coatings have exceeded 1000 hours SST and 120 cycles GM 9540P, accelerated-corrosion tests. The coatings are applied to fasteners by immersion using conventional Dip-Spin coating equipment. Large parts can be treated by the spray method. Advantages include Hydrogen Embrittlement-free processing, bimetallic corrosion resistance with Aluminum, solvent resistance, and four-way corrosion protection (barrier, galvanic, passivation, and self-reparation).

North American Galvanizing Company

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North American Galvanizing Company (NAGC) focuses on corrosion prevention of exposed structural steel. NAGC's annual production capacity at its 10 facilities is more than 500,000 tons. NAGC offers hot-dip galvanizing, specialized centrifuge galvanizing, and Infrashield coatings for severe corrosion protection. Other services are dulling and chemical etching of galvanizing, fabrication design assistance, storage and transportation.

Ocean Fire Protective Coatings

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 oceanfirepc@adelphia.net

Ocean Fire Protective Coatings produces coatings for application to structural steel members, and heating and ventilating duct work. Ocean also offers fire-retardant paints and varnishes, tested for use on lumber, wood paneling, ceiling tile, and other combustible and non-combustible surfaces. Ocean's coatings are listed by the Underwriters' Laboratories. Liquid coatings and mastics are available in 1 gal., 5 gal. and 55 gal. containers. Cementitious fire claddings are available in 50-lb bags.

PPG Industries, Inc.

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Strength, explosion-resistance, and adhesion make PPG's Fire Protective Coatings a solution for structural steel. Firetex thin-film fire coatings protect exposed structural steel. Firetex is tested and certified to UL263 (ASTM E119) standard and British standard BS 476. PittChar XP has a patented, cross-linked epoxy resin, for flexibility and impact resistance. Tested to UL 263, UL 1709, Lloyds' Register, and DnV, PittChar XP protects architectural, petrochemical and offshore industries.

Sherwin-Williams Industrial & Marine Coatings

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Sherwin-Williams offers ExpressTech® coatings that reduce application and labor costs. They can provide faster throughput, return-to-service of



equipment, or stack times in fab shops, and lower VOC emissions. Sherwin-Williams Industrial and Marine Coatings group offers technical service and a distribution network. The group provides solutions for extreme corrosion, abrasion and chemical attack.

Substrate Inc.

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Substrate Inc. offers "TegaBond", a single-component, water-based, low VOC (1.2 lbs/gal) rust-proof coating for carbon steel. Minimum surface preparation is required prior to application by brush, roller, spray or dipping. For most applications, a DFT of 1 mil is adequate. TegaBond is the result of advanced chemical grafting technologies that give strong-force covalent bonding between coating and substrate, eliminating moisture entrapment. "TegaBond" provides a permanently bonded, corrosion resistant (salts - atmospheric chemicals), impact-resistant, flexible coating for construction. Typical material costs are less than \$0.10/sq.ft.

Tnemec Company, Inc.

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Series 394 PerimePrime from Tnemec offers triple corrosion protection for structural steel. A single-component, moisture-cured, MIO/zinc-filled primer, PerimePrime meets AISC requirements for Class B certification over SSPC-SP3 and SSPC-SP5 prepared steel. Series 394 also was tested with ASTM B 117 over SSPC-SP6 prepared steel and ASTM E 736 under several types of fireproofing. In addition, PerimePrime is the first primer to be UL Classified with UL 263 (ASTM E 119) for use under select fire-protection materials without mechanical reinforcement. Series 394 is application-friendly and corrosion protection for perimeter steel.

Voigt & Schweitzer, Inc.

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V&S's 8 galvanizing plants are ISO 9002 certified, and specialize in corrosion protection of steel by hot-dip galvanizing. The COLORZINQ® system celebrated the opening of a new facility this year in Taunton, MA. The Durozinq® program of packaging, tagging, and galvanizing is popular with fabricators in the Midwest and Northeast. The Architectural Luncheon Seminar program helps fabricators understand what architects want out of a galvanized project. These seminars are available nationwide, are geared toward educational information, and qualify for AIA credits.