Acroline™ Systems

SELECTION & SPECIFICATION DATA

Type

Anchored thermoplastic lining

Description

Anchored semi-finished thermoplastic sheet available in 4 thermoplastic polymers for varying chemical and thermal environments.

Uses

Provides a chemical-resistant barrier to protect concrete structures from chemical attack. Provides a leak-tight barrier to contain environmentally hazardous materials.

- Trenches
- Manholes and lift stations
- Sumps
- Process vessels
- Containment areas
- Storage tanks
- Foundations

Features

- Prefabricated sheet can be shop-fabricated into a variety of shapes for placement at sight
- 39 V-shaped anchors per square foot (420 per sm) integrally formed into the sheet
- Integrated v-shaped anchors on back of sheet mechanically lock the liner into the concrete
- Crack-bridging
- Fast refurbishment turnaround by using prefabricated sections
- Attach to concrete formwork. Suitable for new construction or retrofits
- Spark testable for seam verification
- Available in 3-mm and 5-mm thicknesses
- Available in HDPE, PP-R, PVDF and ECTFE polymers

Limitations

Not for use beyond its chemical resistance or thermal capabilities. Not recommended for exterior use. Consult Armor with specific questions.

INSTALLATION GUIDANCE

Reference Specifications

CES-347 Installation of Acroline Systems.

Installation

Acroline components shall only be fabricated by approved fabricators familiar with the details of Acroline Systems installation methods.

All welders are to be fully certified in accordance with the latest revision of ASTM C1147-95. Welds shall be made in accordance with AWS B 2.4 2012 – Specification for Welding Procedure and Performance Qualification for Thermoplastics. German DVS/DIN welding standards and AWS standards may be used in certain cases when agreed with fabricator. Standards pertaining to metal welding may not be substituted for standards pertaining to thermoplastic welding.

Fabrication Drawings shall be prepared by the Fabricator clarifying the type of plastic, method of joining each seam, designation of seams as field seams or shop seams, type of connection profiles and dimensions, method of nondestructive testing, type and design of crating, and requirements for transit and placement.

Acroline sheet for field use should be kept out of direct sunlight while in storage. Flat sheets and fabricated shapes shall be fully supported. The temperature shall not be less than 50°F (10°C) and not more than 90°F (32°C).

Outer formwork, when needed, shall be installed after the concrete protection liners have been attached to the interior formwork as described in Armor specification Ces-347. Project scheduling shall also provide for steel reinforcing to be installed in a manner consistent with not damaging a previously attached liner.

Careful coordination between the Acroline fabrication contractor and the civil contractor responsible for placing concrete or grout behind the anchored sheet is strongly suggested.

Air voids behind the sheet because of the concrete or grout pour must be repaired before commissioning the system. Consideration for use of plasticized concrete should be given especially for areas with minimal clearances or on floor applications.

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PACKAGING, ESTIMATING & HANDLING

Product	Code	Packaging
Acroline PP Sheet	tbd	2m x 4 m sheet (78" x 157")

Note this material is made to order and is subject to minimum order quantities.

Storage & Shelf Life

Indefinite. Do not leave sheet exposed to direct sunlight as warpage will occur.

If there is any question with respect to the quality of the components, check reactivity prior to use. For assistance consult with Armor.

SAFETY

Safety

Read and follow the hazard information, precautions and first aid directions on the individual product labels safety data sheets and specifications before using. Welding of Acroline Systems components requires the use of high heat. Cutting of sheet requires sharp knives or cutting equipment. Follow appropriate safety precautions.

Ventilation

Provide thorough air circulation during and after welding in accordance with good industry practice

TYPICAL PHYSICAL PROPERTIES

Property	Typical Value
Color	HDPE - black PP - gray or black ECTFE and ECTFE - natural
Available thicknesses	HDPE - 3, 5 mm PP - 3, 5 mm PVDF - 4 mm ECTFE - 2.5 mm
Anchor spacing	39 anchors per sf (420 per sm)
Pull out resistance, 23˚C 100N/sec	61 psi (420 kn/sm)
Stud shear resistance, 23˚C 5 mm/min	>449 pound-force (2000 N)
Backpressure resistance 23°C (73°F) 1000 hours, DIBt-test method	22 psi (1.5 bar)
Maximum service temperature	HDPE 140°F (60°C) PP 194°F (90°C) PVDF 248°F (120°C) ECTFE 284 °F (140°C)

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