

Marine HydraWrap SYSTEM

Issue 1.09

Product Description

HydraWrap is an FRP (Fiber Reinforced Polymer) repair system engineered to restore or enhance the structural integrity of pipe and infrastructure.

Each **HydraWrap** system is a uniquely designed high performance Carbon Fiber Reinforced Polymer (CFRP) Composite that consists of a 100% solids high build epoxy Primer, a 100% solids epoxy Wet-Out resin, and carbon fiber fabric.

The Primer provides excellent adhesion to a variety of substrates while allowing a sag free application at high film builds.

The Wet-Out resin is designed to thoroughly wet out the fiber forming a composite matrix with a very high tensile and flexural properties.

HydraWrap provides a rapid, chemical and corrosion resistant structural repair with no hot work required.

Marine HydraWrap System

- Utilizes the proven HydraWrap technology to provide rapid repair system for offshore use.
- The Marine HydraWrap system is the only FRP repair system that is ABS Design Approved.
- Marine kits are designed to include the required materials, tools, and instructions for the repair of standard pipe sizes and shapes and ensure ease of installation.
- Kits are available with our standard high performance epoxies, Acid resistant epoxies and our high temp epoxies depending on the application.

ADVANTAGES

- Rapid development of physical properties with ambient cure. No post cure required for Standard and Acid systems.
- No Hot Work / Welding required
- ABS Design Approved
- Chemical and Corrosion Resistant Structural Repair
- 100% Solvent-Free, Zero V.O.C.
- Low temperature cure down to 40°F (4°C).
- Conforms to different shapes and sizes
- Suitable for Pipe and Bulkhead repairs



PROPERTIES

Working Life – 68°F (20°C)	20 minutes
Dry Times – 68°F (20°C)	4 Hours
Return to Service	24hrs
% Vol Solids (ASTM 2369)	100
Shore D Hardness (ASTM D2240)	80
Mix Ratio -	Pre-measured 1:1
Storage Life - Twelve months when stored in original sealed containers, between 50-77°F (10-25°C)	

SUBSTRATE PREPARATION

Substrate preparation dictates the adhesion performance of any coatings system. A properly prepped surface will ensure maximum life and performance of the system.

Steel: NACE No.2* / SSPC-SP 10*
 NACE No.3 / SSPC-SP 6
 NACE No.5 / SSPC-SP 12

*indicates recommended method

APPLICATION REQUIREMENTS

Minimum Application Temp.	40°F (4.4°C)
Maximum Relative Humidity	85%
Substrate Temperature	5°F (3°C) above dew point
Thinning	Do not thin
Cleaning Fluid	Universal Equipment Cleaner
Note	To aid application at low temperatures, both components should be warmed to 60-68°F (15.5-20°C) prior to mixing.



NOTE

Consult HydraWrap TDS for specifics regarding each HydraWrap system. Consult product MSDS for safety related information.

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INSTALLATION PROCEDURE

Prep Surface

Identify and mark area for repair. Prep surface to give clean dry white metal with rough profile. All sharp edges are to be removed and any voids filled with putty.



Measure Fabric

Measure fabric around area to be repaired providing at least two layers of fabric. Cut fabric to desired length.

Combine and Mix Primer

Segregate Primer containers from Wet-Out containers. Pour contents of one container of A side Primer into one container of B side Primer. Scrape out A side container ensuring any residual contents are combined with B side. Mix with jiffy mixer until color is uniform throughout. 1-2 minutes



Apply Primer

Apply primer using supplied spreader to the prepped surface ensuring complete coverage and no drips or runs.



Combine and Mix Wet-Out

Combine Wet-Out using same procedure as was used for Primer. Thoroughly mix with Jiffy mixer for 2 minutes.

Apply Wet-Out to Fabric

Lay out dry fabric on clean non porous surface (table covered in plastic) and saturate with Wet-Out using supplied spreader. Ensure fabric is completely saturated then squeegee out excess resin. Role fabric on cardboard tube or roller.



Install Saturated Fabric

Center fabric over repair and wrap around with consistent uniform pressure ensuring fabric is snug around pipe. Two wraps will give the minimal two required layers of fabric. Additional layers will provide additional structural support. Leave 1" exposed primer on either side of fabric. Any entrapped air is to be worked out of the fabric by applying pressure via spreader.



Cure

A top coat can be applied to the repair after 3 hours. HydraWrap will develop full physical properties within 24 hours of application.



For details regarding application refer to the HydraWrap Installation Procedure

ORDERING INFORMATION

Part No. for standard kits consist of: **System Code - Pipe Size - Pipe Style** ex. **MSH-12-W** (Marine STD HydraWrap for 12" Weld Repair)

System Code	Pipe Size		Pipe Style
MSH – Standard HydraWrap	4 – will wrap up to one 4" pipe	12 – will wrap up to one 12" pipe	W – Weld
MHH – High Temp HydraWrap	6 – will wrap up to one 6" pipe	16 – will wrap up to one 16" pipe	E – Elbow
MAH – Acid Resistant HydraWrap	8 – will wrap up to one 8" pipe	18 – will wrap up to one 18" pipe	T – Tee
	10 – will wrap up to one 10" pipe	24 – will wrap up to one 24" pipe	SS – Strait Spiral

Custom kits are supplied to accommodate nearly any installation