



SHORELINE PLASTICS LLC 300 ALTON BOX RD JACKSONVILLE FL 32218

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1.1 SUMMARY

A. This Section specifies requirements for restoring deteriorated piles using an extruded PVC SnapJacket encasement. The work shall consist of using PVC extruded openable jacket with a connector rod that locks the interfacing arms of the jacket to create a watertight form around the pile being restored, and filling the annulus between the jacket and the pile with grout or concrete.

B. Contractor shall provide all labor, materials, tools, and equipment required for the completion of the following Work, as shown on the Contract Documents and specified herein:

1. Prepare existing areas, as defined by these specifications and related Contract Drawings, designated to receive pile restoration
2. Design, furnish, fabricate, and install all jackets, shores, and bracing
3. Prepare installation and placement shop drawings listed below
4. Prepare design drawings for shores, and bracing if required
5. Furnish all submittals required by this Section of the Specifications
6. Coordinate all work with other trades on site.

1.2 REFERENCES

A. The latest edition and addenda of the following publications in effect on the date of Contract Award are part of this Specification and, where referred to by title or basic designation only, are applicable to the extent indicated by the specific reference:

1.3 SUBMITTALS

A. Comply with relevant provisions of Section 01xxx, Submittals.

B. Details shall be carried out in accordance with the local building codes, and as detailed on plans.

C. Product Data:

1. Shoreline Plastics LLC PVC product data sheets showing material properties and strength.
2. Concrete and Grout cut sheets showing material properties and strength.
3. Concrete and Grout MSDS sheets.

D. Design and Shop Drawings:

1. Calculations showing the confining pressure provided by the jacket being used.
2. Shop drawings showing the SnapJacket installation steps, and the filler material to be placed in the annular space.

2 - PRODUCTS

2.1 PVC Snapjacket properties

1. The PVC Snapjacket shall be extruded from a high impact, weatherable PVC compound that meets the NSF potable water standard 61, and zero lead requirements Standard 372.
2. The PVC SnapJacket shall have the minimum properties listed in the table below.

Manufacturer	Shoreline Plastics LLC
Product	PVC SNAPJACKET

MATERIAL

Raw Material	Polyvinyl chloride (PVC),
Extruded Material	Uniaxially Oriented PVC-M
Molecular Weight (resin)	65 K value
Relative Viscosity	2.15 dL/gm
Inherent Viscosity	0.91 dL/gm
Relative Density	1.41
Cell Classification	12111 ASTM D-1784

MECHANICAL PROPERTIES:

Impact Strength: 20 kJ/m² Izod 200C ASTM D-256

Impact strength: 8 kJ/m² Izod 00C ASTM D-256
Tear strength: 750-1000 lbft/in ASTM D-624
Hardness: 80 Shore D durometer
Coefficient of Friction: 0.3 μ s PVC to PVC
Ultimate Tensile str 257 kg/cm²
Tensile Str @ Break 150%-300% ASTM-D 638
Tensile Stress @ Yield 352 kg/cm²
Tensile Modulus: 2206 MPa
Flexural Modulus: 2413 MPa
Abrasion resistance: 260,000 cycles with minimal wear gravel and river sand *

SNAPJACKET DIMENSIONS

2.2

SNAPJACKET DIAMETER INCHES NOMINAL	SNAPJACKET DIAMETER INCHES ACTUAL	SNAPJACKET WALL THICKNESS INCHES	SNAPJACKET WEIGHT PER FT LBS
10	10.75	0.135	2.75
12	12.75	0.145	3.51
14	14	0.155	4.12
16	17.25	0.160	4.25
20	21.5	0.180	7.25
24	25.5	0.180	9.5
28	28	0.200	10.5

3. PVC SNAPJACKET

Shall be of Shoreline Plastics manufacture.

2.2 SPACERS

Spacers may be used to ensure an even gap around the piling to be protected

2.3 ALTERNATIVE MATERIALS

If Spacers are used to create an annulus around the pile they shall be non-reactive type.

Any alternative materials proposed as a substitute for the fill materials specified in this specification shall be submitted for review and approved by the Project Engineer at least 15 days prior to the bid date.

PART 3 - EXECUTION

3.1 PREPARATION

A. Timber Piles

1. All timber piles scheduled to receive Snapjacket encasements shall be cleaned either using a high pressure water jet or a scraper. Contractor shall take precautions in order not to remove intact timber section from the existing timber piles during preparation activities. The purpose of this preparation is to remove most of the marine growth and any soft surface layer that may have accumulated on the piles. Severely deteriorated timber may be removed with a water jet.
2. The elapsed time between the cleaning of a timber pile and the installation of the encasement on that timber pile shall not exceed 72 hours. If this time frame is exceeded contractor shall re-clean the pile prior to encasement.
3. Contractor shall remove any marine growth that has accumulated on the pile prior to the installation of the Snapjacket.

B. Concrete piles

1. All loose and deteriorated concrete shall be removed prior to snapping the Snapjacket into place.
2. Contractor shall take precautions not to damage non-spalled or cracked concrete at location of scheduled repair.
3. After loose concrete is chipped away, all concrete surfaces scheduled to receive encasements shall be cleaned using high pressure water-jetting with rating of 5000 psi. The purpose of this preparation is to remove all marine growth and any soft surface layer that may have accumulated on the extension. The elapsed time between the cleaning of the concrete surface and the installation of the SnapJacket encasement shall not exceed 72 hours. If this time frame is exceeded contractor shall re-clean the pile prior to encasement.
4. Contractor shall remove any marine growth that has accumulated on the concrete surface prior to encasement.

3.2 TYPICAL APPLICATION

1. Clean off marine growth on piling

2. Measure length of the SnapJacket needed to extend 8-12” below the mudline to the height of at least one foot above mean high tide. For best protection and longest life of piling it is recommended to jacket piling as high up the pile as possible. This keeps the dry part of the pile protected from UV and salty air. For easiest installation, measure the length from the sand line to the bottom of the header.

3. Cut Snap Jacket to length using a fine tooth “Sawzall” or a “Dremel” circular saw. Do not use an aggressive blade as it may chip the PVC jacket.

4. Place the Snap Jacket around the piling. The easiest method is by opening the bottom section of the jacket then placing around the top section of the piling and then sliding it down the piling. Spin the jacket to a position where the locking mechanism can be slid down from the top. If the piling is completely covered by the deck so the lock cannot be slid down, a deck board may have to be removed to access the joint.. In situations where this is not possible, cut the connector into shorter pieces and slide them down one at a time. When doing this be sure that the cuts are straight to ensure the best seal. To extend deeper into the ground with the jacket, have the area at the bottom of the piling blown out deeper prior to placing the jacket.

5. Once the slide is installed all the way to the bottom, spin the jacket to place the seam out of sight. Then take a pressure washer or jet pump to blow the sand away at the bottom of the jacket to sink it. We recommend it is brought a minimum of 8 inches below the sand/mud line. The depth should be increased in soft muddy areas, or in areas that are regularly dredged to be sure bare piling won't be exposed in the future. Be sure to work quickly placing the jacket after blowing the sand out as it can wash in quickly and make it difficult to move the jacket.

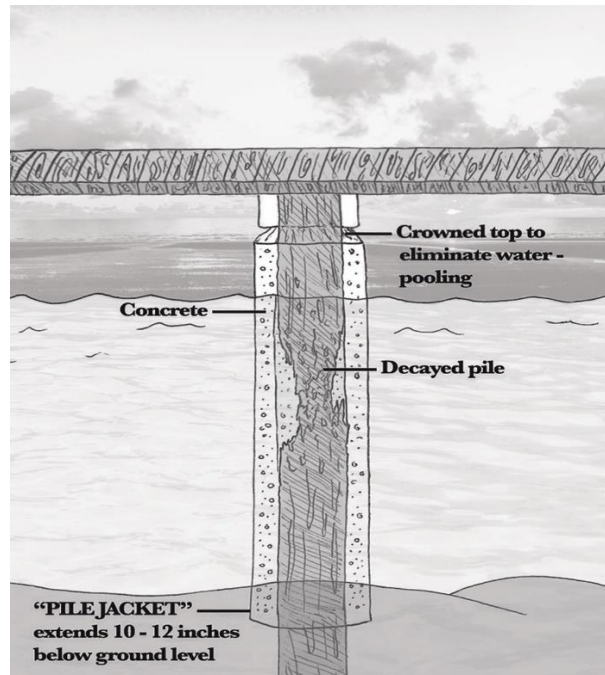
6. When the jacket is set in place, use triangular shims (cut from 2x6's) in the top of the jacket to keep it centered. The sand should wash back in quickly and lock the bottom into place, forming a somewhat of seal. It is recommended that a bag of unmixed (fast setting) concrete is poured into the top of the jacket. This cement will fall to the bottom and form a plug. After this concrete sets up, the shims can be removed, and the jacket will remain centered. The concrete plug doubles as reinforcement for when the additional concrete is put the jacket. Sometimes if there is too much weight from the concrete with a soft seafloor the concrete will blow out of the bottom. If the SnapJacket is being installed in an area with a very soft bottom, a couple bags of cement should be used to set the pile.

7. Fill the remaining void between the piling and Jacket with ready mix. For smaller jobs, a contractor can mix the cement and pour it into the jacket from the top. In instances where the concrete will fall through deep water depths, the water should be evacuated from the jacket or an anti-washout additive can be used to pour straight through the water but with minimal separation of the cement. Pumping cement is much more efficient for larger jobs. 3000-4000 PSI fine mortar mix is recommended for these pumps. These mix designs are easy to pump long distances for line pumps, and also fill the voids of damaged piling well. If pumping through a 2-inch hose or larger, attach a short piece of lay-flat hose to the end of the hose to fit into the side of the jacket without reducing the size of the hose. Try to get the hose as close to the bottom of the piling as possible, pulling the hose up as it fills. This also helps to minimize concrete separation in the water. Shoreline Plastics uses the Imers Koine 35 mortar pump which allows the user to use a 1-inch placement hose, making it easy to get to the bottom of the jacket.

If you are using the Snap Jacket to repair a supporting structure on decayed pilings then structural engineering should be sought.

8. After concrete sets, a crown should be placed around the top of the piling and Snap Jacket, it should slope away from the piling to keep water from pooling at the top of the Jacket. Sand topping mix is best for this application as it can be mixed very dry and is easy to sculpt onto the top. Concrete coloring may be added for cosmetic purposes.

See the how to install video on ShorelinePlastics.com for a step by step guide of installation.



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