nystrom®

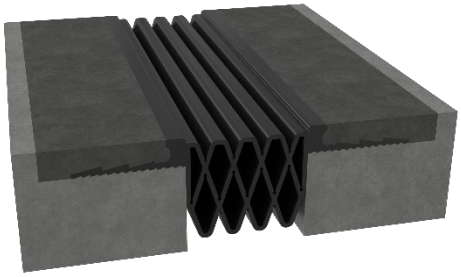
Installation, Operation + Maintenance Manual

SEISMIC WING PARKING SYSTEM – RECESSED BLOCKOUT APPLICATION

Model(s): **WS**

WS Slab to Slab System

GENERAL DESCRIPTION



Nystrom Seismic Wing Parking System is a heat-weldable thermoplastic, rubber sealing system with high performance elastomeric header material. Designed to provide a continuous, watertight seal under rigorous seismic and low speed traffic conditions.

GENERAL SAFETY PRECAUTIONS Improper selection, installation, or use can cause personal injury or property damage. It is solely the responsibility of the user, through their own analysis, to select products suitable to the specific application requirements, ensure proper maintenance and use as intended. Follow local, state, and federal regulations for proper installation and operation requirements. Follow all recommended safety precautions for mixing and handling chemicals, including the use of proper work wear, gloves, eye protection, and proper ventilation. SDS sheets should be consulted before starting work.

Introduction + Safety

Please read the complete instructions carefully before beginning any work. To ensure proper installation and performance of the product, the following actions must be taken by the installing contractor. Failure to do so will affect the product warranty.

Transportation + Storage

- Inspect all shipments and materials for missing or damaged components and hardware.
- Material must be stored in a clean, dry location.

Preparation

- Locate the packing slip(s) and/or shop drawings.
- Verify that all products listed on the packing slip are included in the package.

- Check the products for damage. If products are damaged, report a freight claim immediately and leave the products in their packaging. If you sign for products without reporting damage, you waive your right to a freight claim and will be responsible for replacement costs.
- Read the instructions thoroughly before beginning installation.

Personal Protective Equipment recommendations (beyond standard jobsite PPE)

- Safety Glasses
- Safety Boots
- Chemical resistant gloves
- Respirator use is required when JointCrete products are applied by spraying.

Tool List

- Tape measure
- Level
- Chop saw to cut product to length
- Mixing pails (1 gal & 5 gal)
- Clean white rags
- Duct tape
- Disc grinder
- Roofing paper (to protect substrate)
- Electric drill with jiffy / paddle type mixer
- Broom & dustpan or vacuum
- "Black Beauty" – medium grit
- Small paint brushes
- Toluene
- Miter box w/ hand saw with teeth removed
- Putty knives

Included with the expansion joint system

- Elastomeric Seal Profile(s) – See chart below.
- JointCrete™ Elastomeric Header Material Kit: (#*EJN-JOINTCRETE HEADER KIT*):
  - Part 'A': (#*EJN-JOINTCRETE HEADER PART A*)
  - Part 'B': (#*EJN-JOINTCRETE HEADER PART B*)
  - Part 'C': (#*EJN-JOINTCRETE HEADER PART C*)
- JointCrete™ Primer Kit: (*#EJN-JOINTCRETE PRIMER KIT*)
  - Part 'A': (*#EJN-JOINTCRETE PRIMER PART A*)
  - Part 'B': (*#EJN-JOINTCRETE PRIMER PART B*)
- Termination Bar (#AFB125X1375-10) – *Slab-to-Wall Only*
- Ø1/4" x 1-3/4" FH Tapcon Anchor (*#31860*) – *Slab-to-Wall Only*

Preinstallation

1. Ensure that the area where the system is being installed is smooth and level. High spots should be ground down and low spots filled in. Make sure the surface is clean by brushing or vacuuming the surface. New concrete must be fully cured for a minimum of 14 days.
2. Slightly chamfered top corners, at the top traffic surface of the substrate are recommended. This feature will reduce the effects of impact loading from vehicles and helps minimize cracking or spalling.
3. Mask all joint edges with duct tape and roofing paper to protect substrate.
4. All seal profiles shall be unrolled and allowed to lie in a relaxed position. The seal profile retains a bit of 'memory' from being housed and shipped on spools. Being allowed to rest as straight as possible, for as long as possible, before installation will aid in having a proper installation. Once relaxed, the seal can be cut to length and any necessary splicing done (see section on "Splicing", P13). The seal should be installed in the longest lengths possible to minimize splicing.
5. Cut the seal profiles to the lengths required for the application. Lengths should be accurate in order that the seal is not stretched during the installation process.
6. JointCrete Elastomeric Header & Primer should be stored in clean, dry location between 65° – 90°F (18°-32°C).

Seal Size Chart

Model	Installation Width				Condition	Relaxed Width of Seal
(Profile) Name	Min (in)	Min (mm)	Max (in)	Max (mm)		
EJN-WS-200	1.50	38	2.25	57	Slab-to-Slab	2.25
EJN-WS-200W	1.50	38	2.25	57	Slab-to-Wall	2.25
EJN-WS-300	2.00	51	3.13	80	Slab-to-Slab	3.13
EJN-WS-300W	2.00	51	3.13	80	Slab-to-Wall	3.13
EJN-WS-400	2.50	64	4.25	108	Slab-to-Slab	4.25
EJN-WS-400W	2.50	64	4.25	108	Slab-to-Wall	4.25
EJN-WS-500	3.50	89	5.25	133	Slab-to-Slab	5.25
EJN-WS-500W	3.50	89	5.25	133	Slab-to-Wall	5.25
EJN-WS-600	3.50	89	6.25	159	Slab-to-Slab	6.25
EJN-WS-600W	3.50	89	6.25	159	Slab-to-Wall	6.25

INSTALLATION (EJN-WS Series [Slab-to-Slab])

1. BLOCKOUTS: All blockouts must be formed to 3.50” [89mm] wide and 0.75” [19mm] in depth. Abrasive blast the substrate blockout surfaces to remove any bond breakers and to prep the surface. Note: all concrete repairs are to be in accordance with ICRI guidelines. Duct tape and roofing paper should be applied before proceeding. **See Figure 1**.

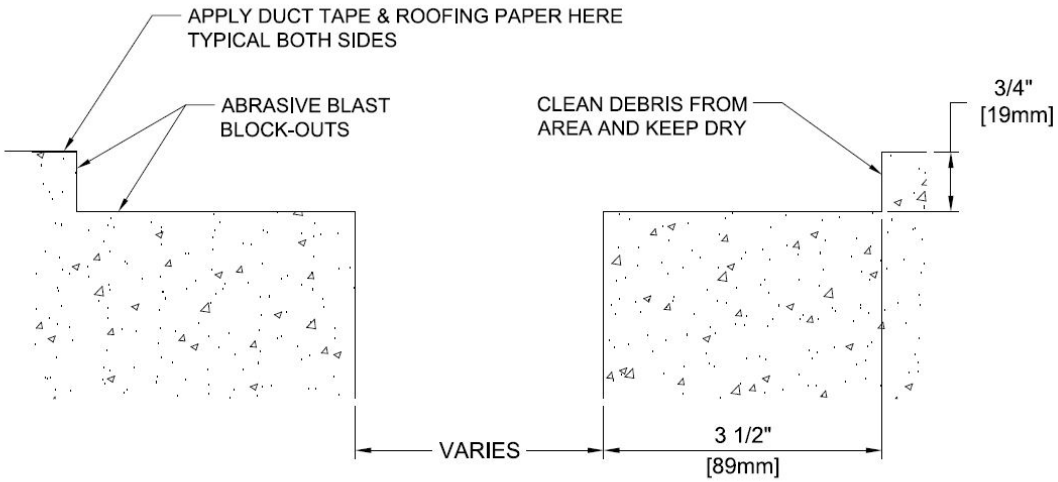


FIGURE #1

2. JointCrete Primer MUST be used as a primer in the blockout prior to the installation of the JointCrete Elastomeric Header material. Mix and apply JointCrete Primer (minimum 10 mil thickness) to all surfaces of the blockout. Follow instructions on the container for proper mixing procedure and use of personal protective equipment. (Once mixed, yield should be 120 square feet per kit, if entire kit is mixed). NOTE: ambient air temperature must be at least 40°F (4°C) and rising during application. After the proper installation, the primer will look wet. It is required to pour wet-on-wet, and you should have up to 3 hours to install the elastomeric header in the blockout. **See Figure 2**.

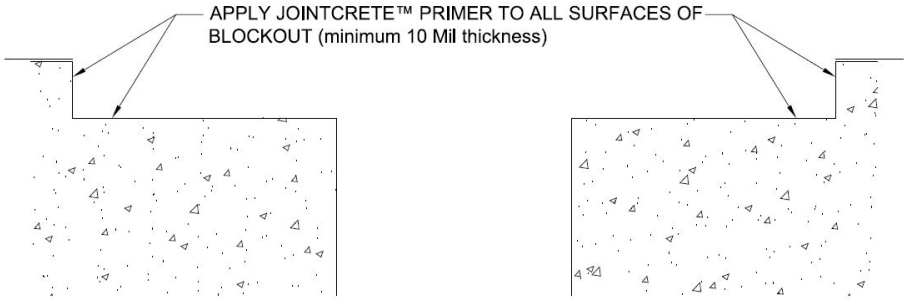


FIGURE #2

3. Next, position the seal profile over the joint opening as shown in **Figure 3.** Compress the bottom of the seal profile and insert into the joint opening – See **Figure 4**. Finish the seal installation by positioning the seal within the joint so that the seal wings lay flat in the blockouts. It may be necessary to make relief cuts in the seal wings to aid them in laying flat. When making relief cuts, care should be taken to make small cuts and not remove large portions of the seal. Remove only enough material to allow the seal to flatten.

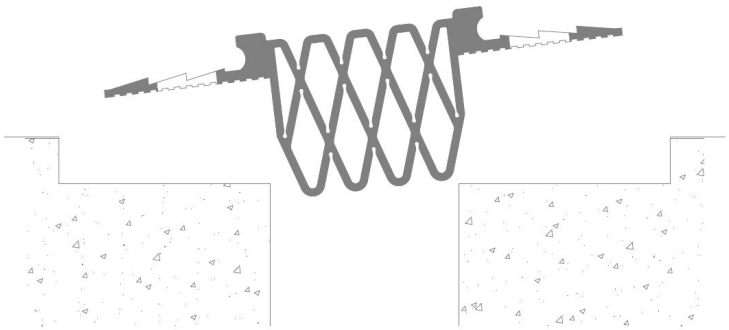


FIGURE #3

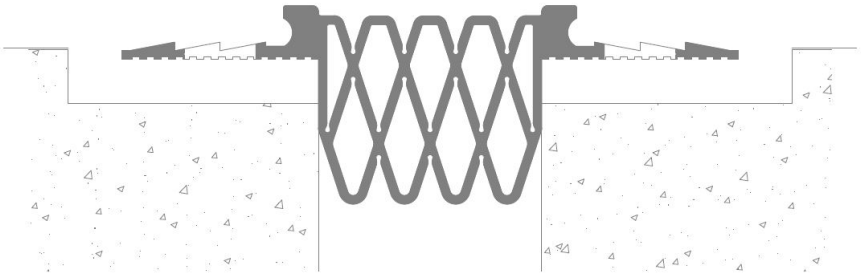


FIGURE #4

4. To ensure a proper installation, walk the entire length of the seal profile and make certain all wings are sitting flat in the blockouts and that the seal itself is sitting level and flush. Once that is confirmed, cover the entire top surface of the seal profile with duct tape as shown below. This will help prohibit any elastomeric header material from getting into the top features of the seal profile and blocking any movements in the future.
See Figure 5.

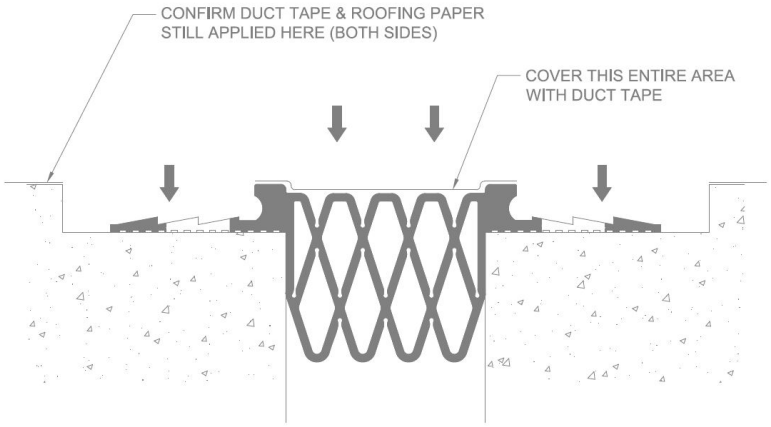


FIGURE #5

5. **JointCrete Elastomeric Header Material Kit Mixing Procedure**: First ensure that the proper components are on the jobsite and are staged nearby, including personal protective equipment. JointCrete Header Kit consists of: One (1) gallon of Part "A", one-half (1/2) gallon of Part "B" and a five (5) gallon bucket of aggregate (Part "C"). If properly installed and buckets scraped empty, the JointCrete Header Kit yield should be 0.525 cu.ft./ Kit. Be sure and properly cover the mixing area(s) on the jobsite with tarps or similar as the Kit material components could stain the substrate, prior to mixing or after. The JointCrete Header Kit is designed to be mixed as a whole unit, as such Nystrom does not recommend mixing partial units.

6. Open the Part "B" container and mix before emptying the entire contents into a clean 5-gallon plastic bucket. Scrape the Part "B" can completely into the 5-gallon bucket before discarding the container. Open the Part "A" container and add its contents to the Part "B" already in the 5-gallon bucket. Immediately mix both contents with a ¾" low RPM drill with a large grout paddle for 30 seconds and until completely mixed. While the drill is still running, pour the Part "C" aggregate into the liquid mixture and mix until entire contents are uniform in color and texture (approximately 1-2 minutes). Once uniform color and texture has been achieved, remove the drill and move the bucket to the joint and pour the contents into the blockouts as shown on the shop drawings. The JointCrete Elastomeric Header Material will flow and self-level. Immediately start to lightly trowel the material into place making sure its flush with the top of the seal bulkhead and adjacent substrate. Toluene can be used to lubricate and then clean the trowels as needed. Allow excess JointCrete products to harden before disposal. **See Figure 6.**

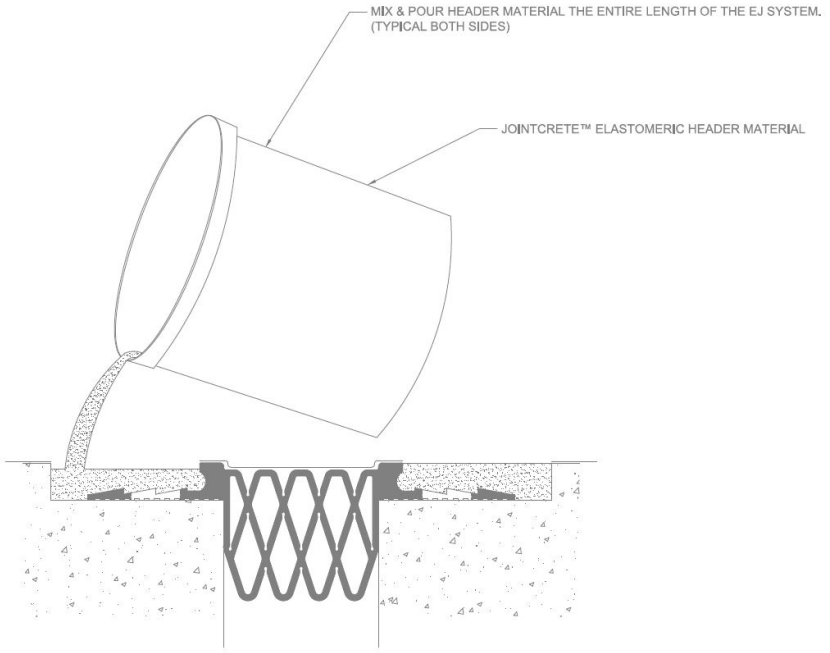


FIGURE #6

7. After approximately 2-3 minutes after installation, broadcast “Black Beauty” - medium grit (by others) across the top surfaces of the header material. Then remove the duct tape and roofing paper from all surfaces immediately. **See Figure 7**.

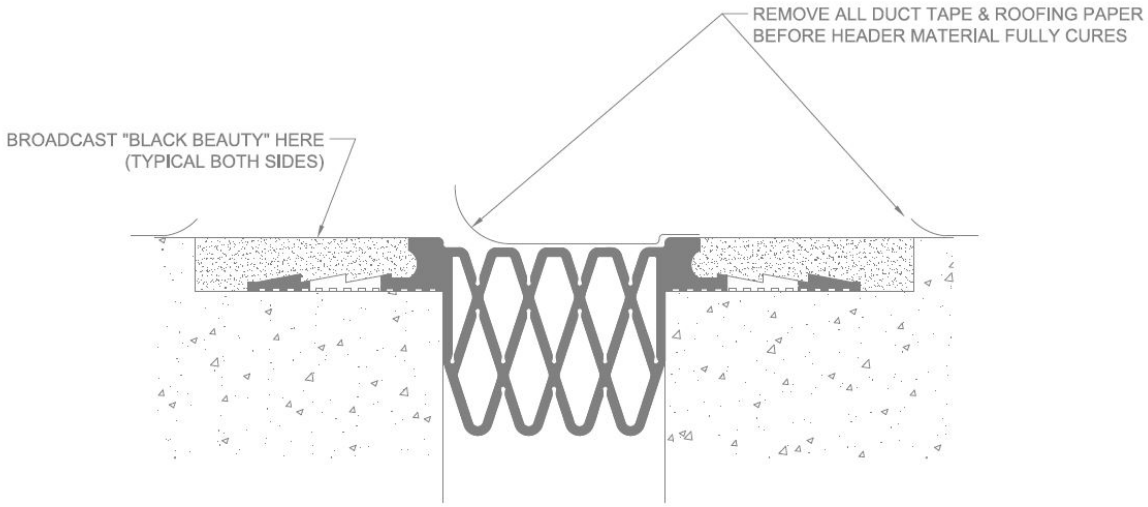
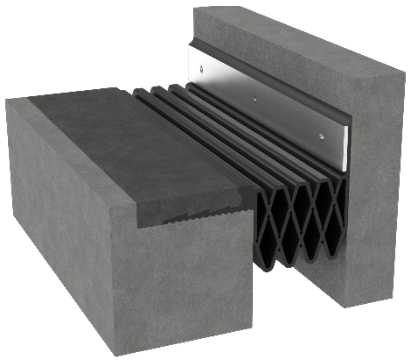


FIGURE #7

WS Slab-to-Slab System



GENERAL DESCRIPTION

Nystrom Seismic Wing Parking System is designed to match the WS system in corner applications.

INSTALLATION (EJN-WS Series [Slab-to-Wall])

8. BLOCKOUTS: All blockouts must be formed to 3.50” [89mm] wide and 0.75” [19mm] in depth. Abrasive blast the substrate blockout surfaces to remove any bond breakers and to prep the surface. Note: all concrete repairs are to be in accordance with ICRI Guidelines. Duct tape and roofing paper should be applied before proceeding. **See Figure 8**.

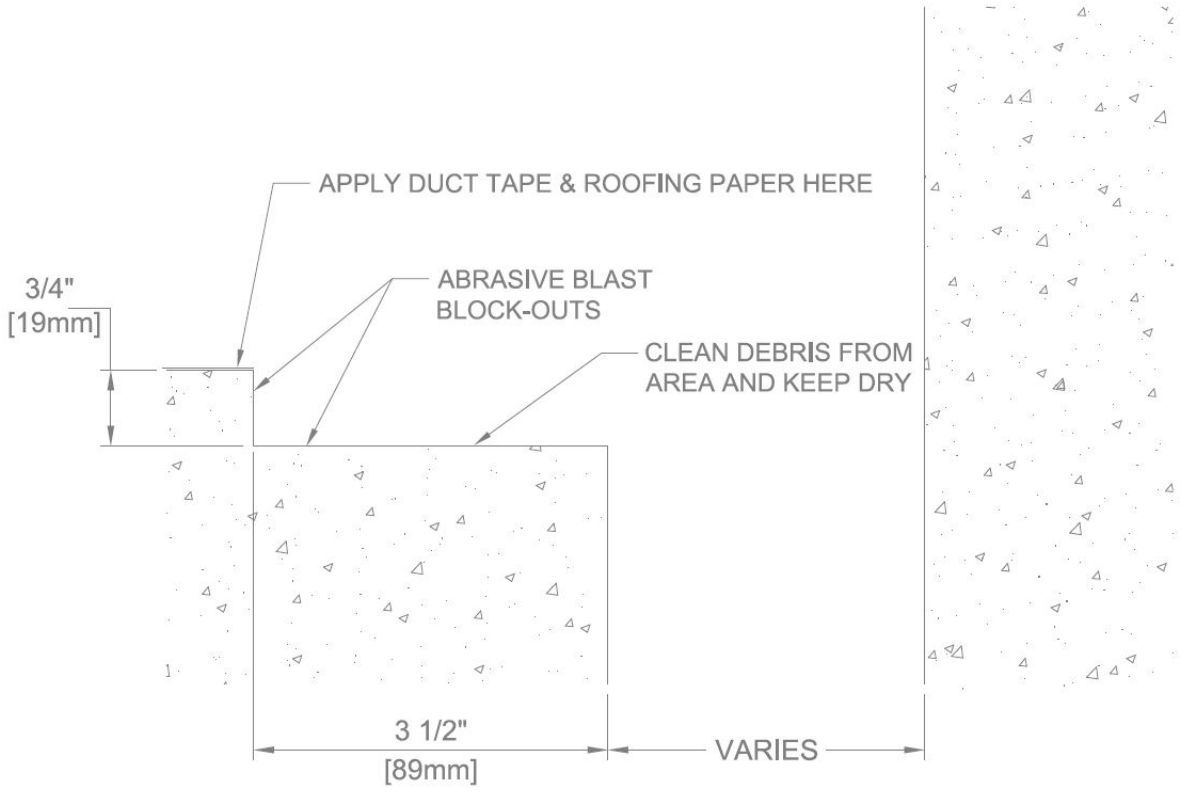


FIGURE #8

9. JointCrete Primer MUST be used as a primer in the blockout prior to the installation of the JointCrete Elastomeric Header Kit material. Mix and apply JointCrete Primer (minimum 10 Mil thickness) to all surfaces of the blockout. Follow instructions on the container for proper mixing procedure, and use of personal protective equipment. (Once mixed, yield should be 120 square feet per kit, if entire kit is mixed). NOTE: ambient air temperature must be at least 40°F (4°C) and rising during application. After the proper installation, the primer will look wet. It is required to pour wet-on-wet, and you should have up to 3 hours to install the elastomeric header in the blockout. **See Figure 9**.

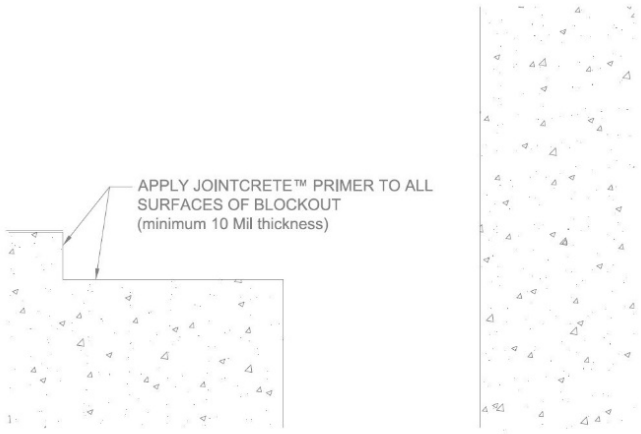


FIGURE #9

10. Next, position the seal profile over the joint opening as shown in **Figure 10.** Compress the bottom of the seal profile and insert into the joint opening – See **Figure 11**. Finish the seal installation by positioning the seal within the joint so that the seal wing lays flat in the blockout. It may be necessary to make relief cuts in the seal wing to aid them in laying flat. When making relief cuts, care should be taken to make small cuts and not remove large portions of the seal. Remove only enough material to allow the seal to flatten.

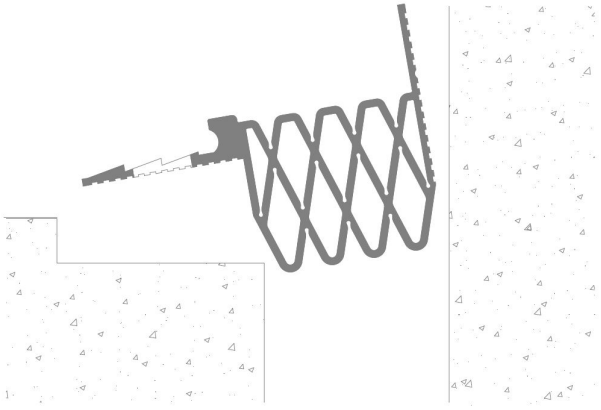


FIGURE #10

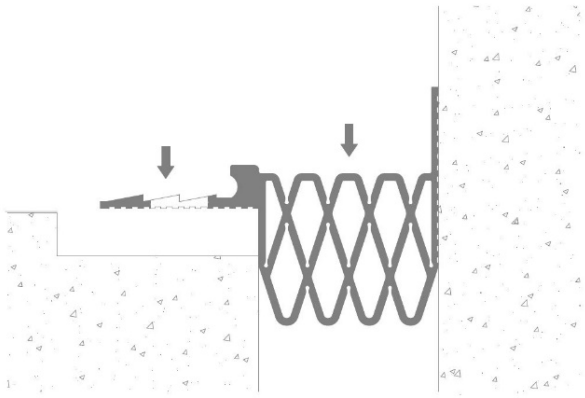


FIGURE #11

11. To ensure a proper installation, walk the entire length of the seal profile and make certain all "wings" are sitting flat in the blockout and that the seal itself is sitting level and flush. Once that is confirmed, cover the entire top surface of the seal profile with duct tape as shown below. This will help prohibit any elastomeric header material from getting into the top features of the seal profile and blocking any movements in the future. **See Figure 12.**

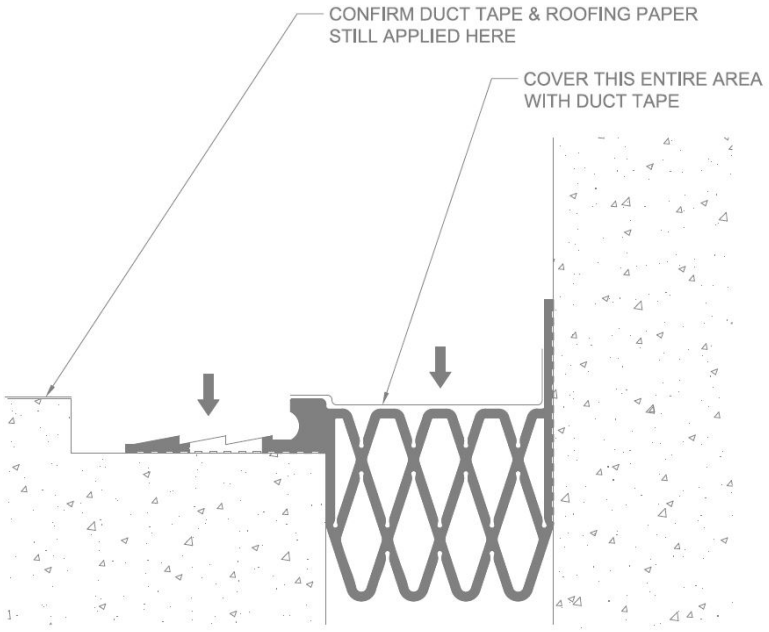


FIGURE #12

12. **<u>JointCrete Elastomeric Header Material Kit Mixing Procedure</u>**: First ensure that the proper components are on the jobsite and are staged nearby, including personal protective equipment. JointCrete Header Kit consists of: One (1) gallon of Part "A", one-half (1/2) gallon of Part "B" and a five (5) gallon bucket of aggregate (Part "C"). If properly installed and buckets scraped empty, the JointCrete Header Kit yield should be 0.525 cu.ft./ Kit. Be sure and properly cover the mixing area(s) on the jobsite with tarps or similar as the Kit material components could stain the substrate, prior to mixing or after. The JointCrete Header Kit is designed to be mixed as a whole unit, as such Nystrom does not recommend mixing partial units.

13. Open the Part "B" container and mix before emptying the entire contents into a clean 5-gallon plastic bucket. Scrape the Part "B" can completely into the 5-gallon bucket before discarding the container. Open the Part "A" container and add its contents to the Part "B" already in the 5-gallon bucket. Immediately mix both contents with a ¾" low RPM drill with a large grout paddle for 30 seconds and until completely mixed. While the drill is still running, pour the Part "C" aggregate into the liquid mixture and mix until entire contents are uniform in color and texture (approximately 1-2 minutes). Once uniform color and

texture has been achieved, remove the drill and move the bucket to the joint and pour the contents into the blockout as shown on the shop drawings. The JointCrete Elastomeric Header Material will flow and self-level. Immediately start to lightly trowel the material into place making sure its flush with the top of the seal bulkhead and adjacent substrate. Toluene can be used to lubricate and then clean the trowels as needed. Allow excess JointCrete products to harden before disposal. **See Figure 13.**

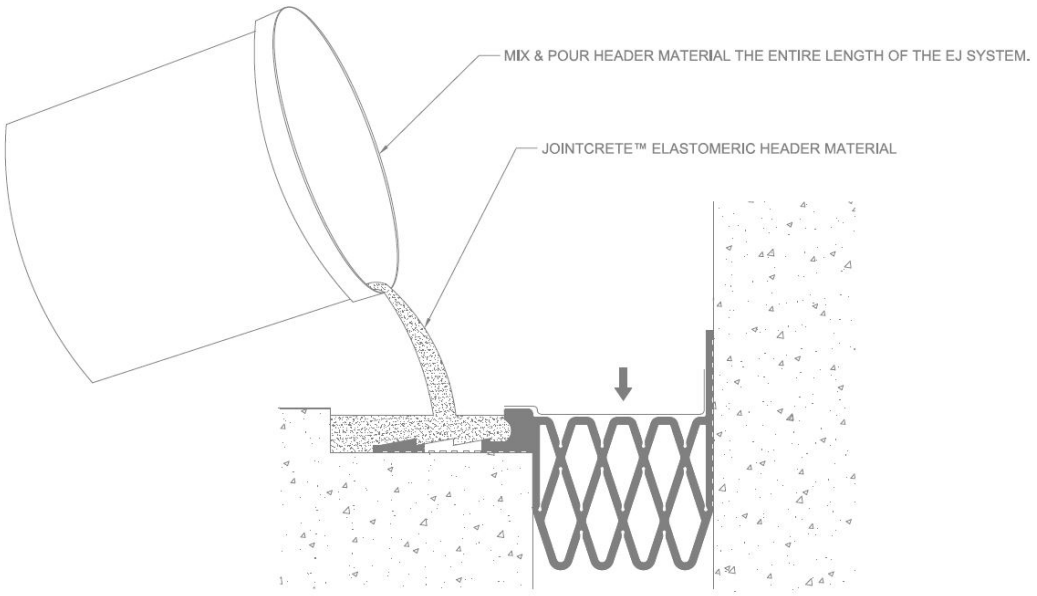


FIGURE #13

14. After approximately 2-3 minutes after installation, broadcast “Black Beauty” - medium grit (by others) across the top surface of the header material. Then remove the duct tape and roofing paper from all surfaces immediately. **See Figure #14**.

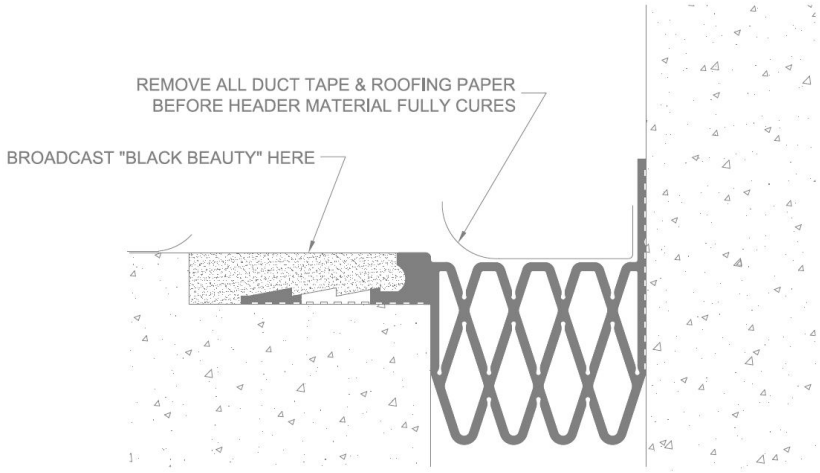


FIGURE #14

15. After installation of the Nystrom JointCrete Header Material in the blockout, place the vertical seal wing evenly along the vertical surface. Liberally coat the entire backside of the wing with sealant (provided by installer) **See Figure #15**. Fasten wing to vertical surface using the supplied termination bar & 1/4" x 1-3/4" Tapcon anchors at 12.00" on-center. To ensure a proper watertight installation, apply a continuous bead of sealant along the top edge of the termination bar as shown below.

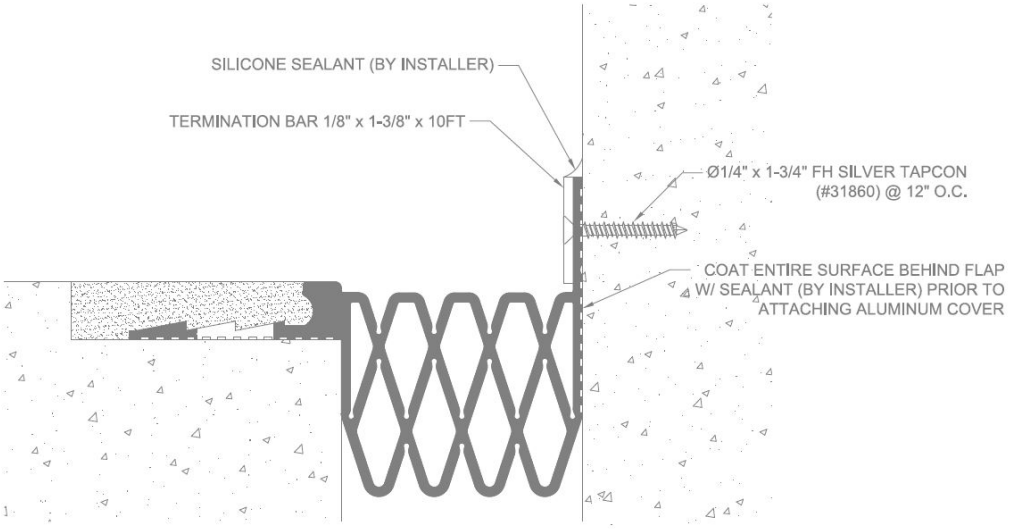


FIGURE #15

Splicing Procedure (EJN-WS Seals)

16. Before cutting seal, pre-heat heat plate (by others) to 425 degrees F. Should take 10-20 minutes.
17. Use a miter box and a back saw with the teeth ground down. Use toluene (or similar solvent) as a lubricant on both the saw and the seal. Use box to cut seal profile straight. Bring seal profiles into contact with the heat plate (both sides – one profile per side). Hold each seal profile against the heat plate for 1-2 minutes or until seal profile begins to curl against the side of the heat plate.
18. Remove the seal profiles from the heat and apply together, aligning each seal profile with the other. Apply pressure holding the seals together for approximately 3-4 minutes to allow the seals to fuse together and cool appropriately.
19. Use a soldering gun with a flat tip to fix any areas that didn't seal properly. Care must be taken to not burn into the seal profiles. **See Figure 16**.

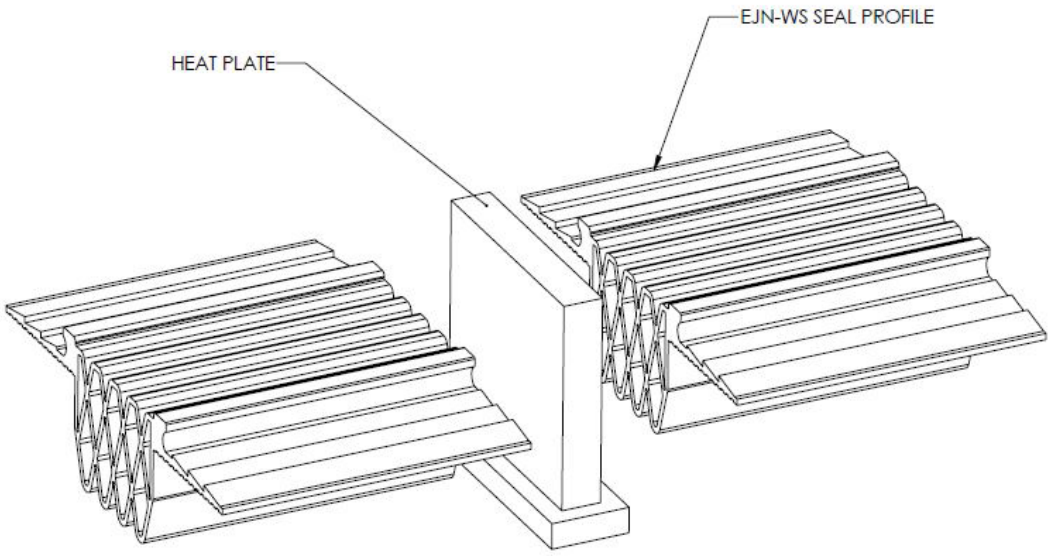


FIGURE #16

OPERATION

Expansion Joints are designed and built for years of dependable service.

MAINTENANCE

Perform annual inspections to make sure the system is in position; all fasteners are tight and in place and there is no impedance of joint cover movement. Repair and/or replace as needed.

QUESTIONS?

For more information on installation, repair, or replacement, please contact Customer & Sales Support at 800-547-2635 or visit nystrom.com