

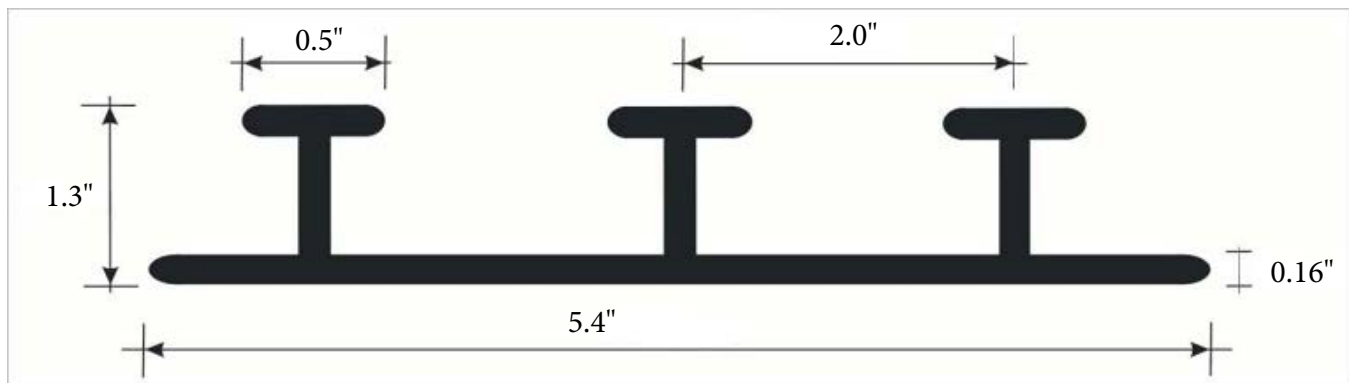
Agru Tri-Lock



Material Specifications

Agru America Tri-Lock is an extruded HDPE profile designed to provide an effective termination/attachment detail between HDPE geomembrane and concrete structures. Tri-lock is available in long lengths and is UV stabilized. It is produced from high grade resin, providing broad compatibility with HDPE lining materials.

Resin Properties	Typical Value (English)	Typical Value (SI)	Test Method
Density	≥0.940 g/cm ³	≥0.940 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	≤1.0 g/10 min	≤1.0 g/10 min	ASTM D1238
Carbon Content (%)	≥2	≥2	ASTM D4218
Carbon Dispersion (Category)	1 or 2	1 or 2	ASTM D5596
Molded Properties	Typical Value (English)	Typical Value (SI)	Test Method
Thickness	160 mil	4 mm	ASTM D5199
Tensile Strength at Yield	88 psi	15 MPa	ASTM D6693
Tensile Strength at Break	154 psi	27 MPa	
Elongation at Yield (%)	12	12	
Elongation at Break (%)	700	700	



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AGRU TRI-LOCK INSTALLATION GUIDE

Agru America Agru Tri-lock is a High Density Polyethylene (HDPE) extruded anchoring system designed to provide an embedded attachment for HDPE liner. Agru America Agru Tri-lock is designed to embed in any face of new cast-in-place or precast concrete construction and can be fabricated to maneuver around shapes and corners.

Any thickness of HDPE liner can be welded to Agru America Agru Tri-lock. If unexpectedly high tensile loads are experienced by the liner, the liner is designed to yield before the Agru Tri-lock will yield or pull out of the concrete. The Agru Tri-lock Profile is detailed in Figure 1.

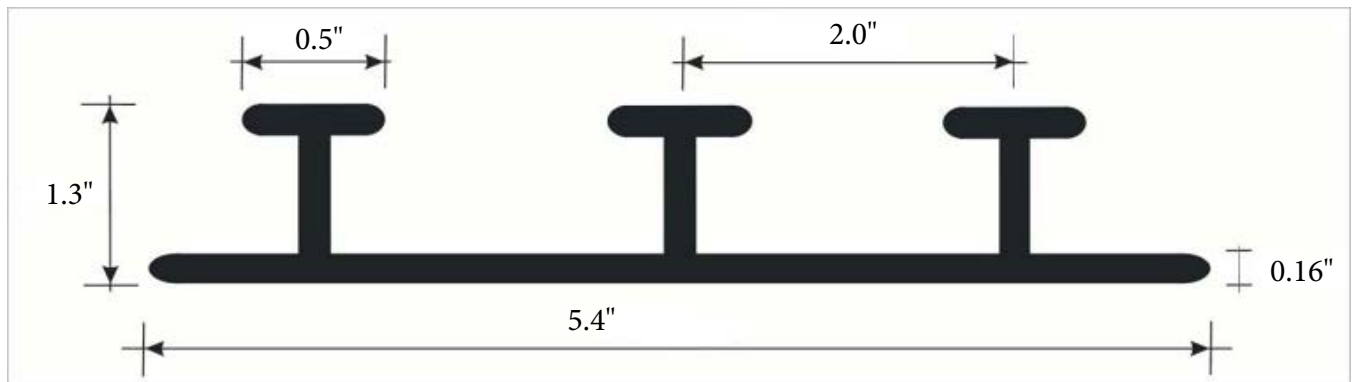


Figure 1- Agru America Agru Tri-lock

Attachment of the HDPE Liner to Agru Tri-lock is performed by grinding the Agru Tri-lock and the HDPE Liner and then extrusion welding the HDPE Liner to the Agru Tri-lock.

Proper installation techniques must be observed to ensure a secure embedment of the Agru Tri-lock and a sound weld to the HDPE Liner.

AGRU TRI-LOCK INSTALLATION

Agru Tri-Lock must be cut and butt-welded together to fit corners and shapes. This cutting and welding, if performed correctly, will provide continued support for the HDPE Liner and secure a seal. Corners and “T” connections can be supplied prefabricated.

ATTACHMENT OF AGRU TRI-LOCK TO FORMS

Agru America Agru Tri-Lock is attached to the inside of a concrete form with finishing nails prior to concrete placement (Figure 2). The finishing nails should be 1 inch or smaller. The nails must be driven flush with the back of the Agru Tri-Lock to allow for their easy removal when the forms are wrecked. The Agru Tri-Lock should be attached sufficient points to ensure a flush fitting with the form.

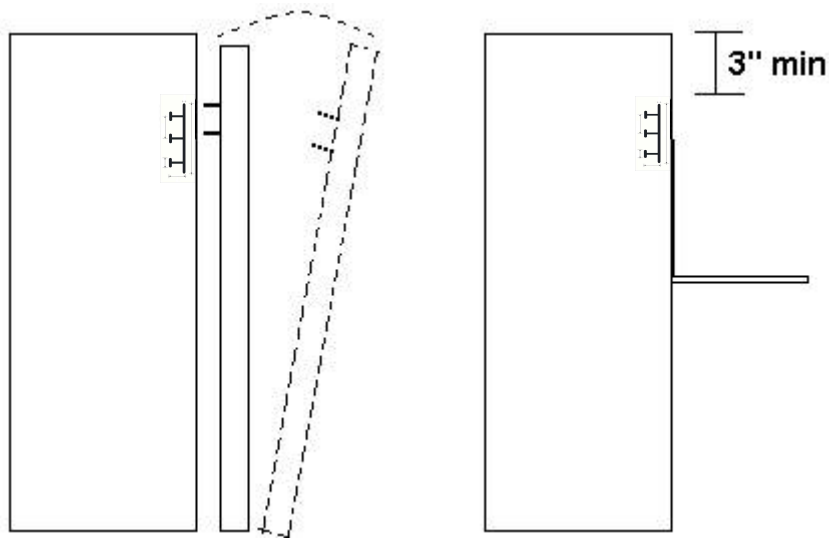


Figure 2

EMBEDMENT OF THE AGRU TRI-LOCK

The concrete surrounding the Agru Tri-Lock should be vibrated to ensure that there are no void spaces in the concrete adjacent to the Agru Tri-Lock.

After the concrete has set and the forms are wrecked, the finishing nails can be removed. If concrete gets between the Agru Tri-Lock and the form, it should be chipped away to reveal the face of the Agru Tri-Lock. Any sharp edges that are created by the chipping back of the concrete must be beveled to prevent possible cutting or puncturing of the liner.

HEAT FUSION WELDING OF AGRU TRI-LOCK

The recommended method of butt-welding Agru Tri-Lock is a heat fusion welding method which yields a continuous strip of material. The following is a list of tools and procedures required to perform the heat fusion welding method.

Welding Tools

110 V Leister Triac with Welding Mirror Attachment

-or-

Any Double Sided Butt-Welding Hot Plate

Welding Procedures

1. Cut the ends of the Agru Tri-Lock to be welded. These cuts should be square and smooth with no nicks or gouges in the surface.
2. Clean ends with a clean cotton cloth to remove dirt, water, grease and other foreign materials.
3. Insert clean and pre-heated welding mirror plate between ends and bring the ends firmly in contact with the mirror plate while achieving an even melt pattern over the cut face of the Agru Tri-Lock. Allow the ends to heat and soften until a melt bead of approximately 1/8" appears.
4. Remove the mirror plate from between the two pieces of Agru Tri-Lock and bring the melted ends together. Apply enough pressure to produce a 1/8" roll-back bead.
5. Allow the joint to cool.