



UNISORB IB-500™

Foundation Isolation System

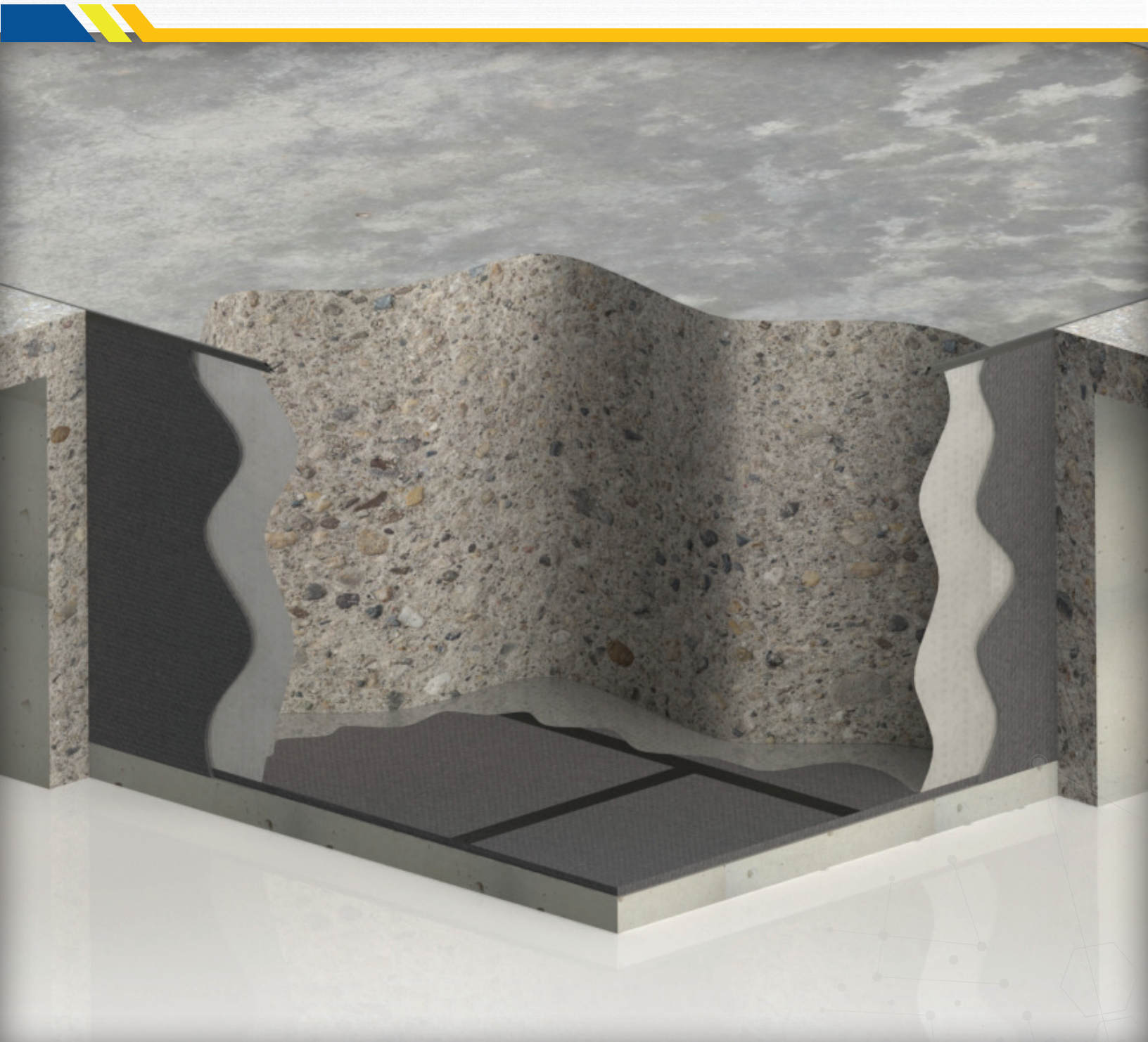


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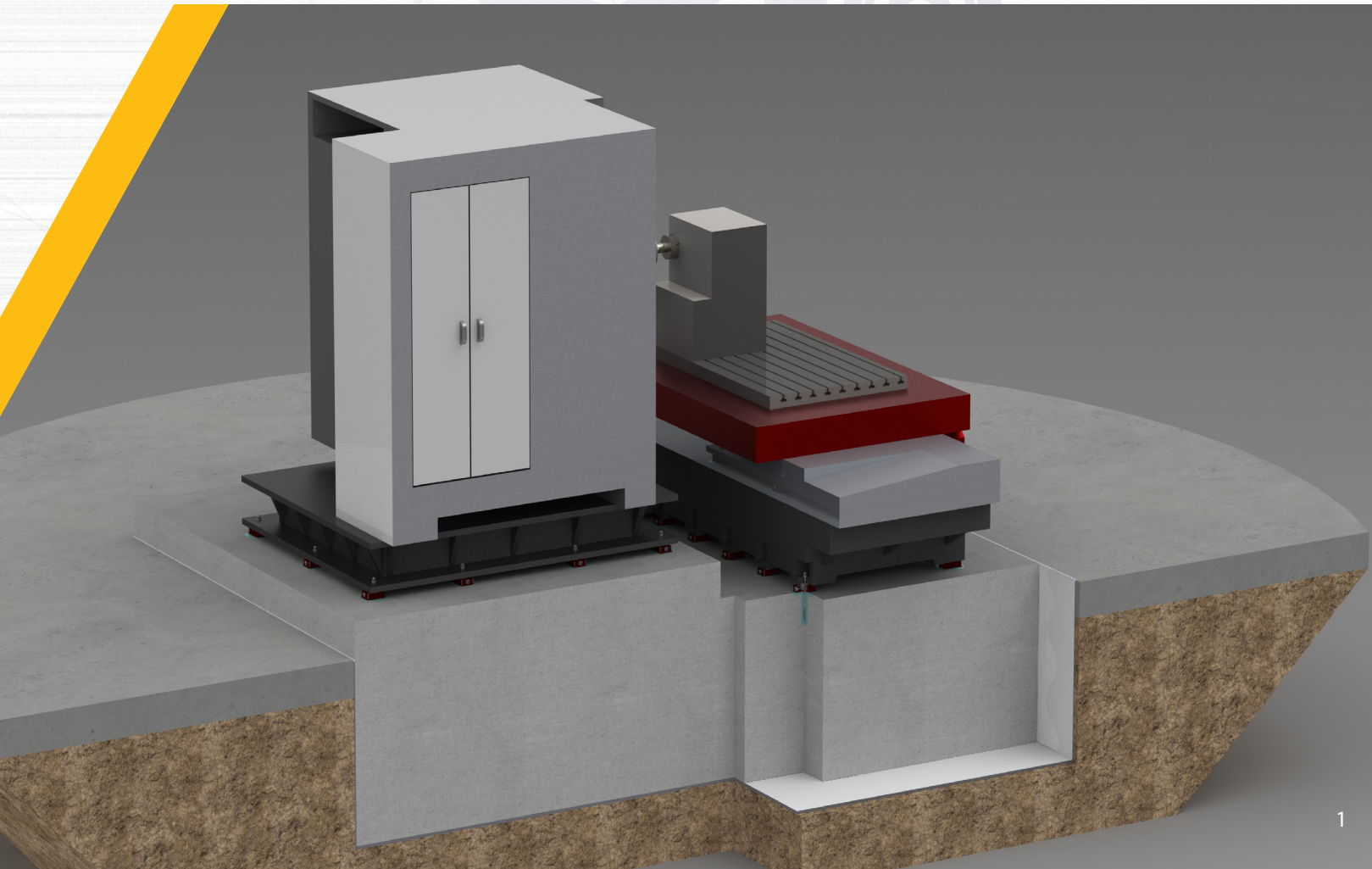
UNISORB IB-500™ Foundation Isolation System

IB-500, Explained

The UNISORB Installation Technologies IB-500 Foundation Isolation System is a foundation based vibration isolation solution designed to separate dynamic machine forces from the surrounding structure. By isolating equipment at the base, the system helps maintain performance standards, protect facility infrastructure, and support long term operational consistency.

Key Advantages of UNISORB IB-500:

- Isolates machinery from the building foundation to reduce vibration transfer
- Controls both low and high frequency dynamic forces
- Maintains equipment alignment and geometric stability under load
- Protects adjacent machines and sensitive processes from interference



TECHNICAL SPECIFICATIONS FOR IB-500 ISOLATION MATERIALS

GENERAL INFORMATION:

Pad Composition	- Proprietary blend of multiple diameters & length - 100% man-made synthetic fibers permanently interlocked by the Lauterbach process to form a uniform pad with predictable mechanical properties. - No biodegradable components - Mildew inhibitor—none required - Environmentally safe
Covering	- High count, 70 denier, high tensile nylon fabric
Coating	- Synthetic polymer film forming watertight coating
Pre-conditioning	- At manufacture, IB-500 materials are placed under a compressed load which is a minimum of ten times the maximum rated load to eliminate any possibility of dimensional changes occurring as operational loads are applied.
Origin	- United States of America

SPECIFIC INFORMATION:

IB-500-S2 Sidewall Material – 3' x 6' Sheet (914 mm x 1829 mm)

Thickness	- 1/2" (12.7 mm) - (typical installation requires one layer on vertical surfaces)
Rated Load	- 0-12 psi (0-0.083 N/mm ²)
Recommended Load	- 2-10 psi (0-0.069 N/mm ²) (maximum benefit range)

IB-500-B1 Base Isolation Material – 3' x 6' Sheet (914 mm x 1829 mm)

Thickness	- 1/2" (12.7 mm) - (typical installation requires two layers on base, making 1" (25.4 mm) total base isolation thickness)
Rated Load	- 0-20 psi (0-0.138 N/mm ²)
Recommended Load	- 5-15 psi (0.034-0.103 N/mm ²) - (maximum benefit range)

IB-500-B5 Base Isolation Material – 3' x 6' Sheet (914 mm x 1829 mm)

Thickness	- 1/2" (12.7 mm) - (typical installation requires two layers on base, making 1" (25.4 mm) total base isolation thickness)
Rated Load	- 0-32 psi (0-0.221 N/mm ²)
Recommended Load	- 15-28 psi (0.103-0.193 N/mm ²) - (maximum benefit range)



Please consult the following for additional information in IB-500 Foundation Isolation Materials:

- Unisorb Foundation Isolation Solutions (contact Unisorb)
- Unisorb Product Data Bulletin GB-0110-1.1 “Instructions for Installing Unisorb IB-500 Materials” – (contact Unisorb)
- Unisorb Technical Bulletin GB-0050-2 “Projected Natural Frequency for Foundation with Unisorb IB-500 Base Isolation” – (contact Unisorb)
- Unisorb Technical Bulletin GB-0138-2 “IB-500-B1 Foundation Isolation Material Physical Properties” – (contact Unisorb)

Unisorb’s engineering team is available to review your application for the proper use of all IB-500 applications.

Dann Todd
Product Development Supervisor
10/2026 Rev.

IB-500™ Isolated Foundation Design Considerations

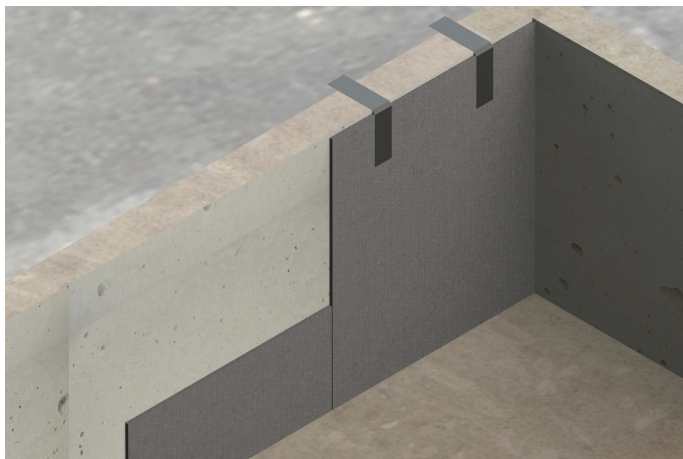
Typical Isolated Foundation

- 1 For support critical machinery design from allowable deflection – not allowable load. In many applications, the foundation becomes part of the machine's structure.
- 2 For optimum cost/benefit relationship, in most cases, a mass ratio (foundation to machine) of approximately 1.5:1 is desirable.
- 3 Foundation should not serve as a support for any structure other than the machine to be isolated.
- 4 The combined center of gravity of the machine and foundation should be below the foundation top. That center of gravity should coincide with the centroid of support of the base isolation material within approximately 5% of any horizontal dimension. Contact Unisorb's engineering team if there are questions about proper loading of the base isolation material.
- 5 Allowable soil loadings should be verified for the installation with a reduction of 50% being applied when a "source" machine which imparts a significant dynamic loading is being installed. Ideally, a full soils survey should be performed at the installation site to permit accurate modeling of the system.
- 6 When "sensitive" machines are being installed, an ambient site survey (vibration spectrum analysis) should be performed under conditions duplicating, as closely as possible, actual operating conditions.
- 7 Allowable concrete and steel loads should be in compliance with applicable building codes, with appropriate fatigue factors taken into account when high dynamic forces are present.
- 8 Anchor bolt locations should be no closer than 12" to foundation perimeter, or equal to 1.5 times the embedment depth, whichever is greater, unless special reinforcement for the vertical wall is provided.
- 9 Prior to finalizing design, contact Unisorb Engineering for no charge computer modeling of the system's performance.

Instructions for Installing Unisorb IB-500™ Materials

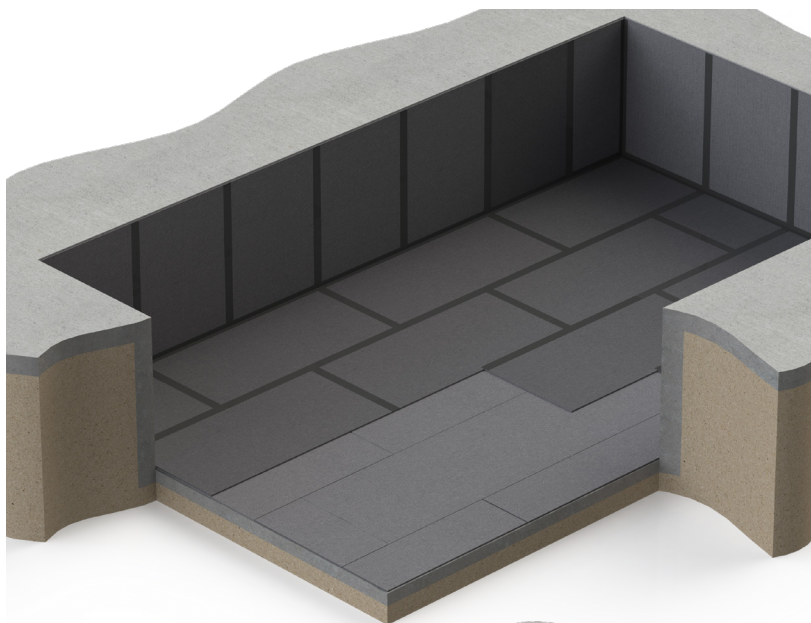
(Typical Full Coverage Isolation)

- 1 After the concrete lined pit is prepared for the foundation, place IB-500-S2 sidewall materials along the walls of the pit, following the Unisorb Layout drawings (when provided for the project). Be sure to place the bottom edges of the sidewall material all the way down to the bottom of the pit. Unisorb IB-500 materials may be cut with a sharp utility knife, using a straight edge. The IB-500-S2 may be fastened to the walls with good brand of construction adhesive. Tape all seams and corners with Premium Grade IB-500 Seam Tape. Approximately ½" (12mm) of space should be left at the top edge of the sidewall to allow for the use of V-100 Epoxy Grout Joint Filler. Install the Void Cap in this space. (See Void Cap detail on Unisorb Dwg. No. 409940-16 or -17)

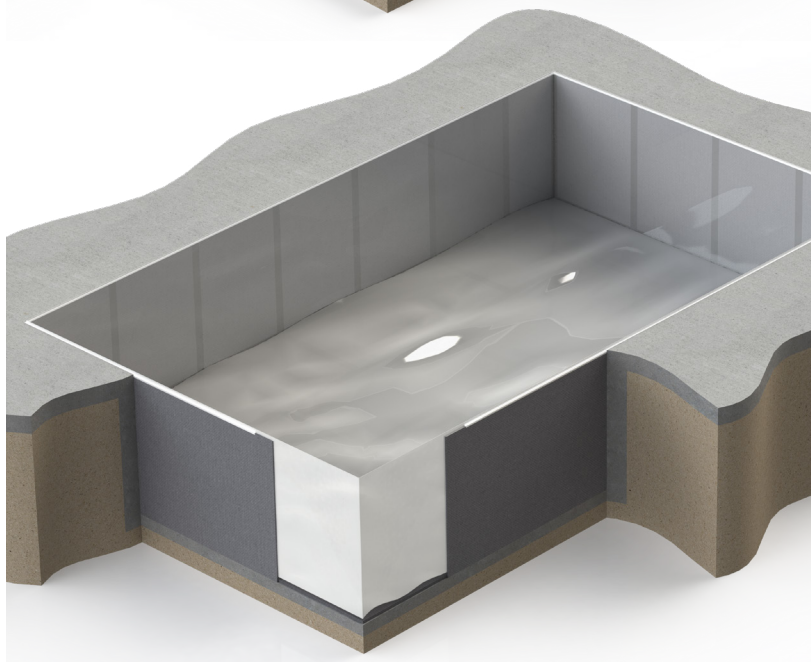


DO NOT ATTACH IB-500-S2 WITH NAILS OR OTHER OBJECTS THAT WOULD PUNCTURE THE MATERIAL OR OTHERWISE CAUSE A "SHORT CIRCUIT" IN THE ISOLATION SYSTEM.

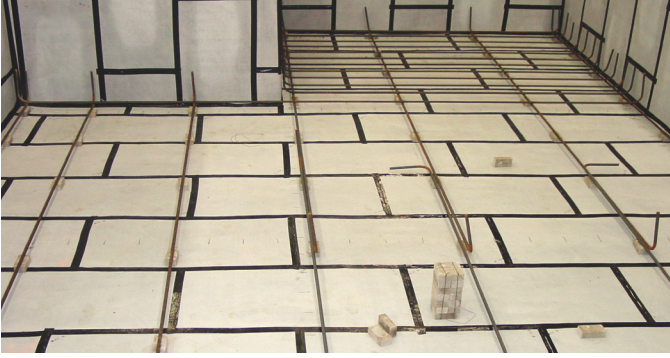
- 2 Lay the IB-500-BI base material on the floor of the pit. Partial sheets should be cut using a sharp utility knife and a straight edge. Place the top layer so that the seams of the top layer do not fall on the seams of the bottom layer. After installing the final layer, tape all seams with Premium Grade IB-500 Seam Tape.



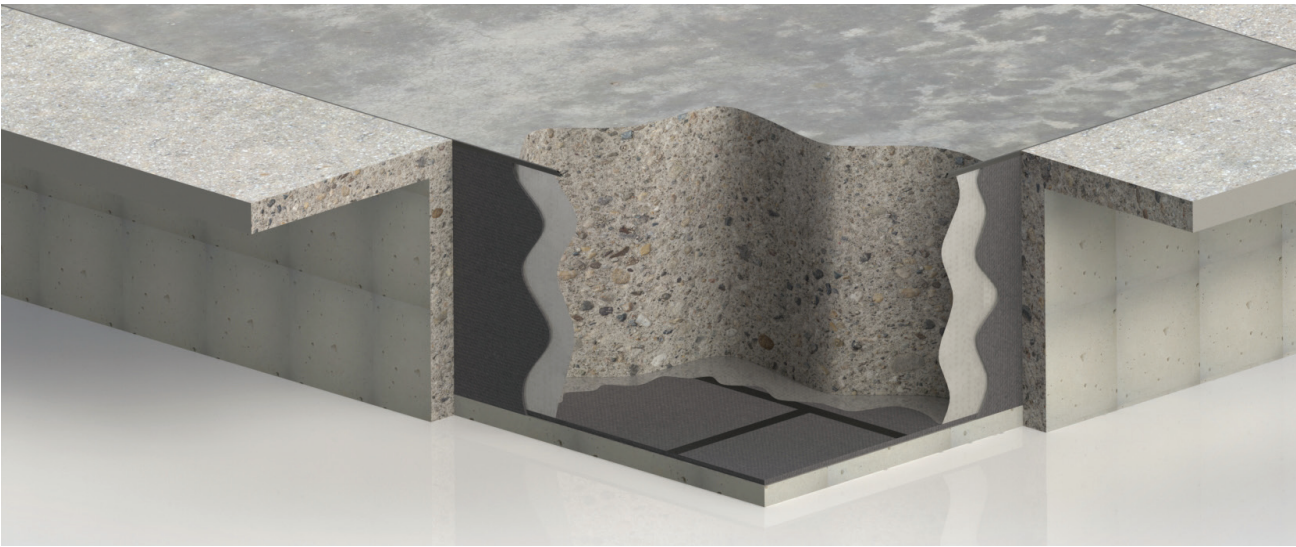
- 3 Line entire pit with Poly Pit Liner after the sidewall and base materials are in place and all seams are taped. This will prevent concrete from creeping through any gaps and making contact with the concrete, thus "short-circuiting" the isolated foundation.



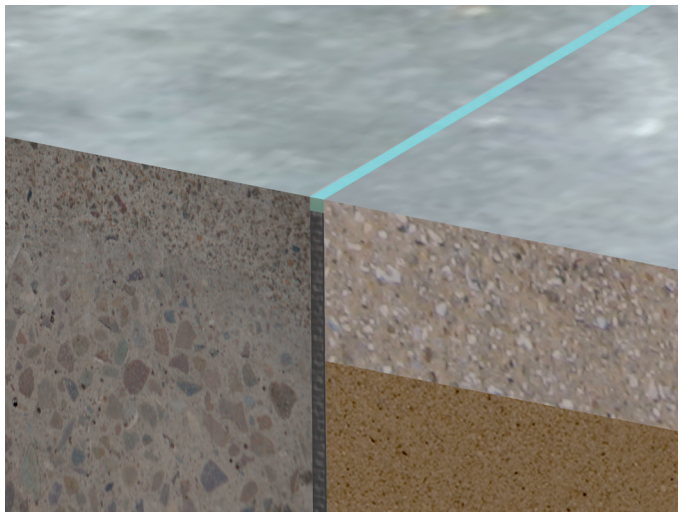
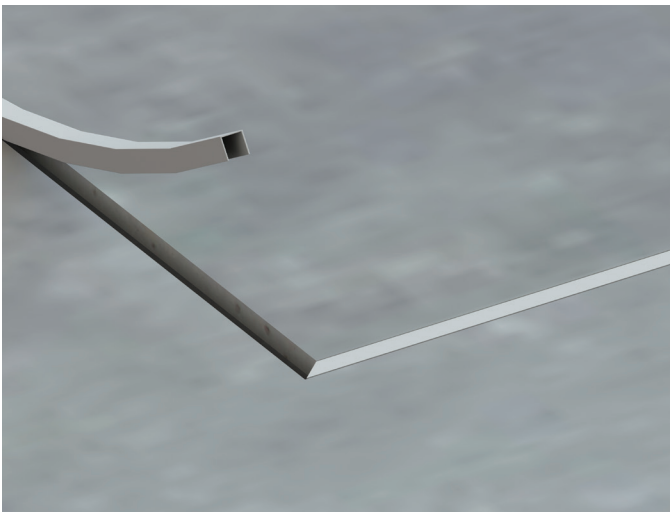
- 4** To prevent rebar from puncturing the IB-500-B1 base isolation material, and to spread the vertical load, use scrap wood, steel, or cement blocks directly under the rebar.



- 5** Pour the foundation utilizing proper concrete techniques. Be careful that the concrete flow does not push the rebar cage up tight against any of the IB-500-S2 sidewall materials.



- 6** After the concrete is set, remove the Void Cap from the perimeter of the foundation. Fill any visible cracks with a soft caulk, such as silicone, to prevent leakage of the V-100 Joint Filler. Fill the void with the V-100 Joint Filler material. Instructions for properly mixing and installing the V-100 Joint Filler are included with the product.

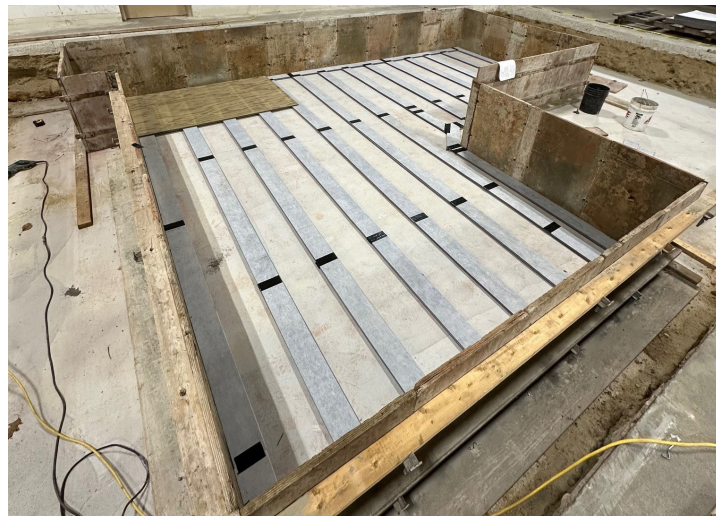


Instructions for Installing Unisorb IB-500™ Materials

(Typical Partial Coverage Base Isolation)

- 1 After the concrete lined pit is prepared for the foundation, place IB-500-S2 sidewall materials along the walls of the pit, following the Unisorb Layout drawings (when provided for the project). Be sure to place the bottom edges of the sidewall material all the way down to the bottom of the pit. Unisorb IB-500 materials may be cut with a sharp utility knife, using a straight edge. The IB-500-S2 may be fastened to the walls with good brand of construction adhesive. Tape all seams and corners with Premium Grade IB-500 Seam Tape. Approximately ½" (12mm) of space should be left at the top edge of the sidewall to allow for the use of V-100 Epoxy Grout Joint Filler. Install the Void Cap in this space. (See Void Cap detail on Unisorb Dwg. No. 409940-16 or -17)

DO NOT ATTACH IB-500-S2 WITH NAILS OR OTHER OBJECTS THAT WOULD PUNCTURE THE MATERIAL OR OTHERWISE CAUSE A "SHORT CIRCUIT" IN THE ISOLATION SYSTEM.



- 2 Lay the IB-500-BI base material on the floor of the pit. Partial sheets should be cut using a sharp utility knife and a straight edge. Place the top layer so that the seams of the top layer do not fall on the seams of the bottom layer. After installing the final layer, tape all seams with Premium Grade IB-500 Seam Tape.



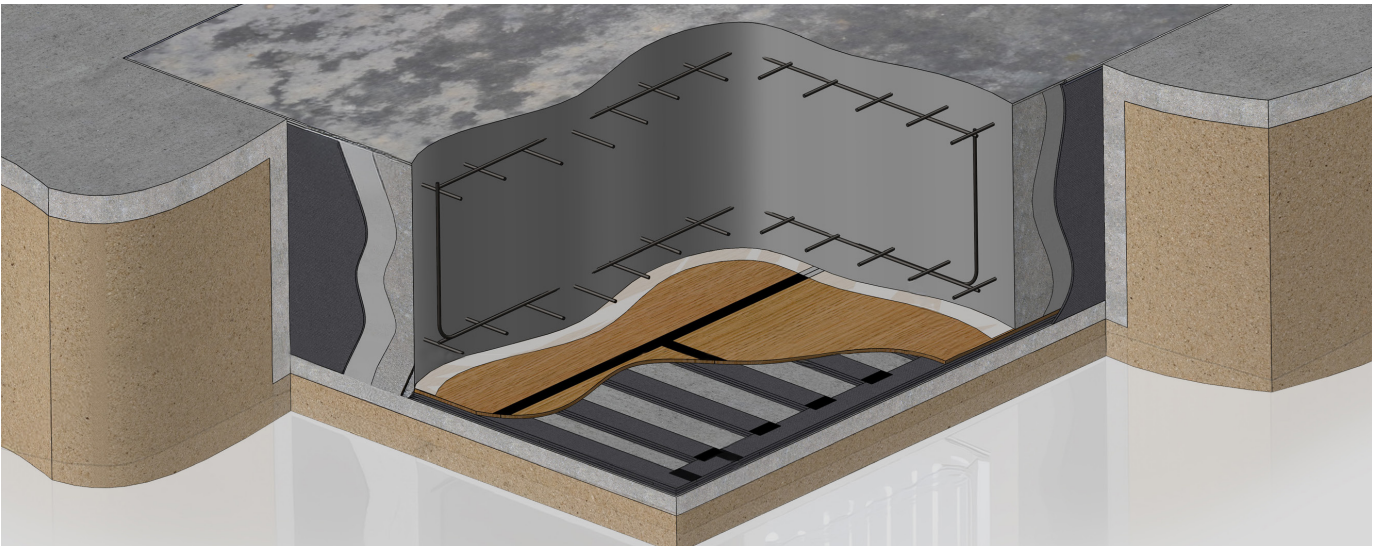
- 3 Line entire pit with Poly Pit Liner after the sidewall and base materials are in place and all seams are taped. This will prevent concrete from creeping through any gaps and making contact with the concrete, thus "short-circuiting" the isolated foundation.



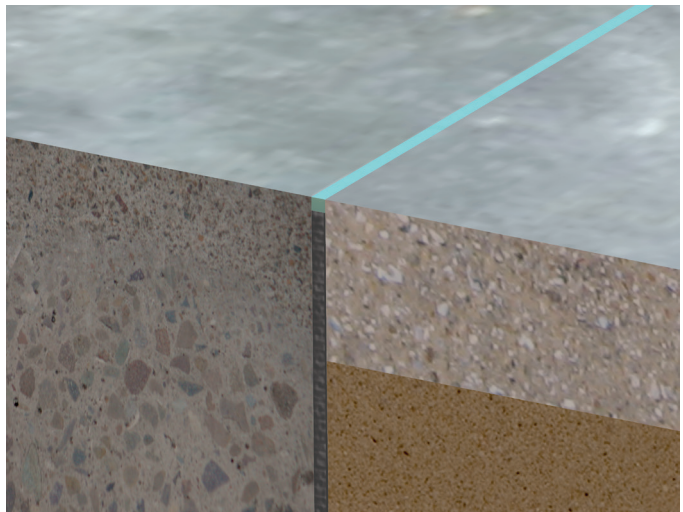
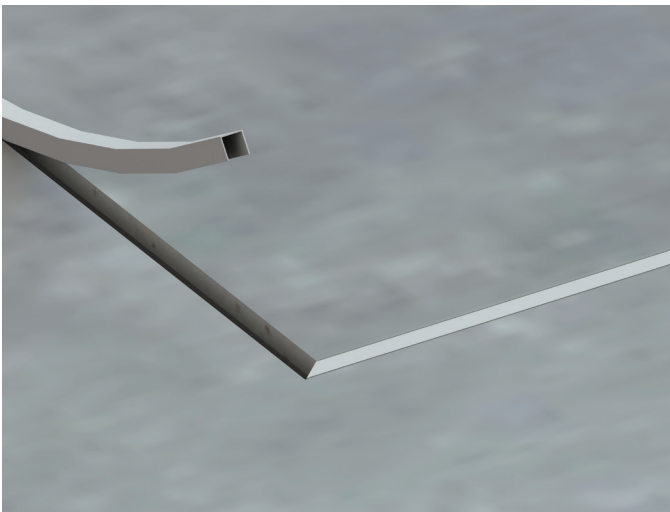
- 4** To prevent rebar from puncturing the IB-500-B1 base isolation material, and to spread the vertical load, use scrap wood, steel, or cement blocks directly under the rebar.



- 5** Pour the foundation utilizing proper concrete techniques. Be careful that the concrete flow does not push the rebar cage up tight against any of the IB-500-S2 sidewall materials.



- 6** After the concrete is set, remove the Void Cap from the perimeter of the foundation. Fill any visible cracks with a soft caulk, such as silicone, to prevent leakage of the V-100 Joint Filler. Fill the void with the V-100 Joint Filler material. Instructions for properly mixing and installing the V-100 Joint Filler are included with the product.



Accessory Products



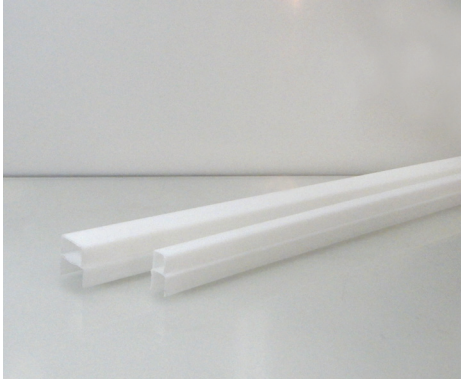
Premium Grade IB-500™ Seam Tape

Tape all seams in IB-500 Inertia Block isolation materials. This prevents intrusion of fluid concrete into the material. Available in 3" wide x 60 yard long rolls.



Poly Pit Liner

Lines the inside of pits eliminating fluid concrete from leaking into the isolation materials. Available in rolls of 20' x 100' or by the linear foot x 20' widths.



Void Cap Strips

Temporarily fill the joint at the top of Inertia Blocks. The tops are removed prior to installing Unisorb Joint Filler V-100. Available in either 1/2" or 1" widths x 5' long.



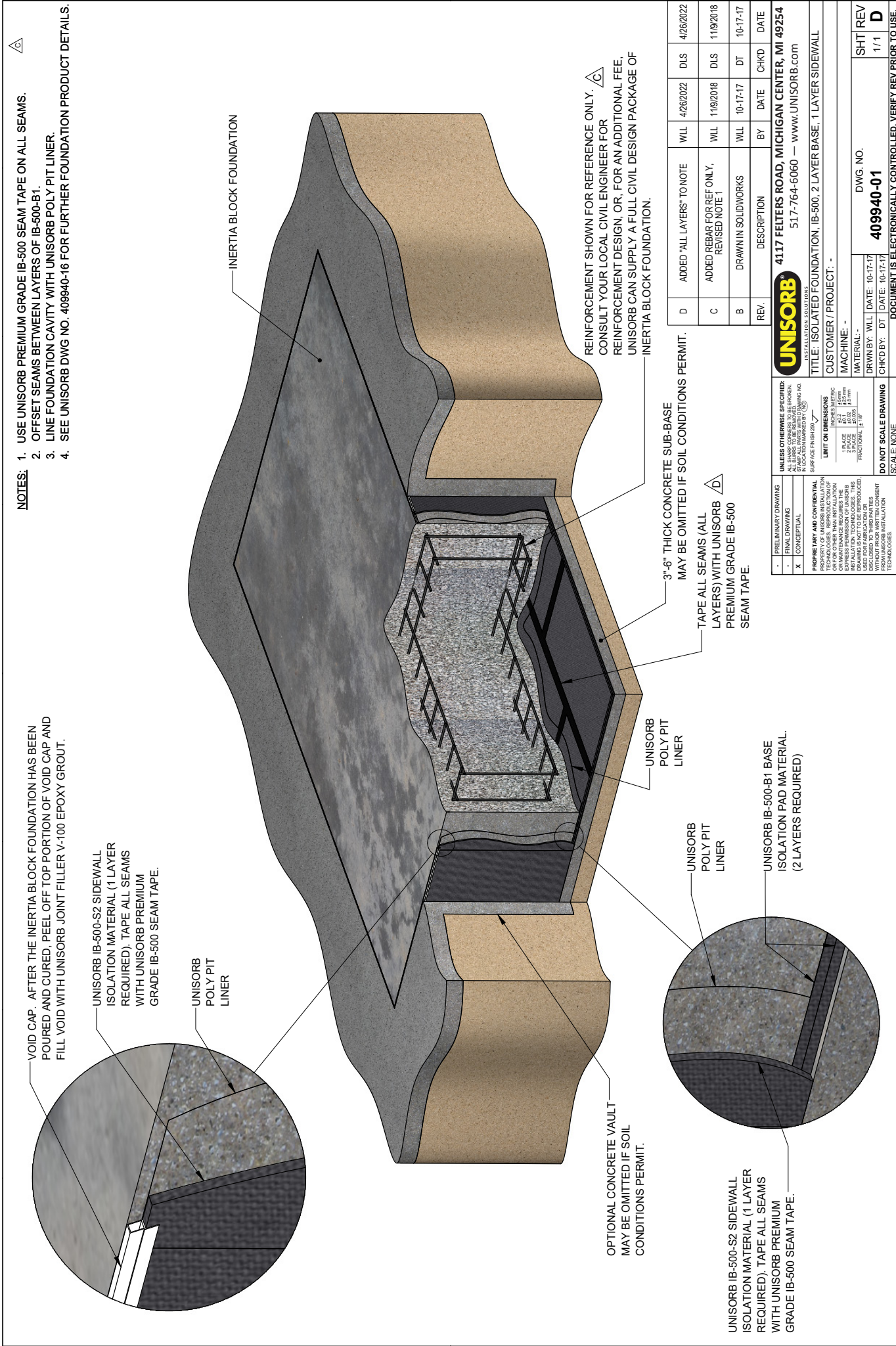
Joint Filler V-100® Epoxy Grout

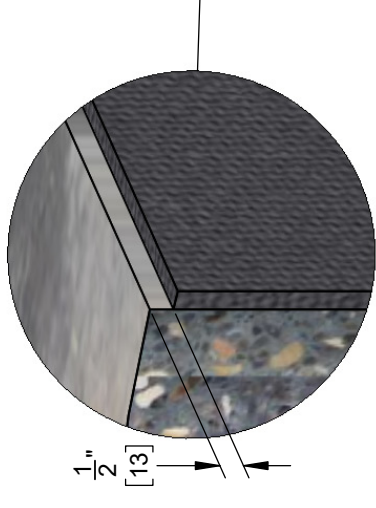
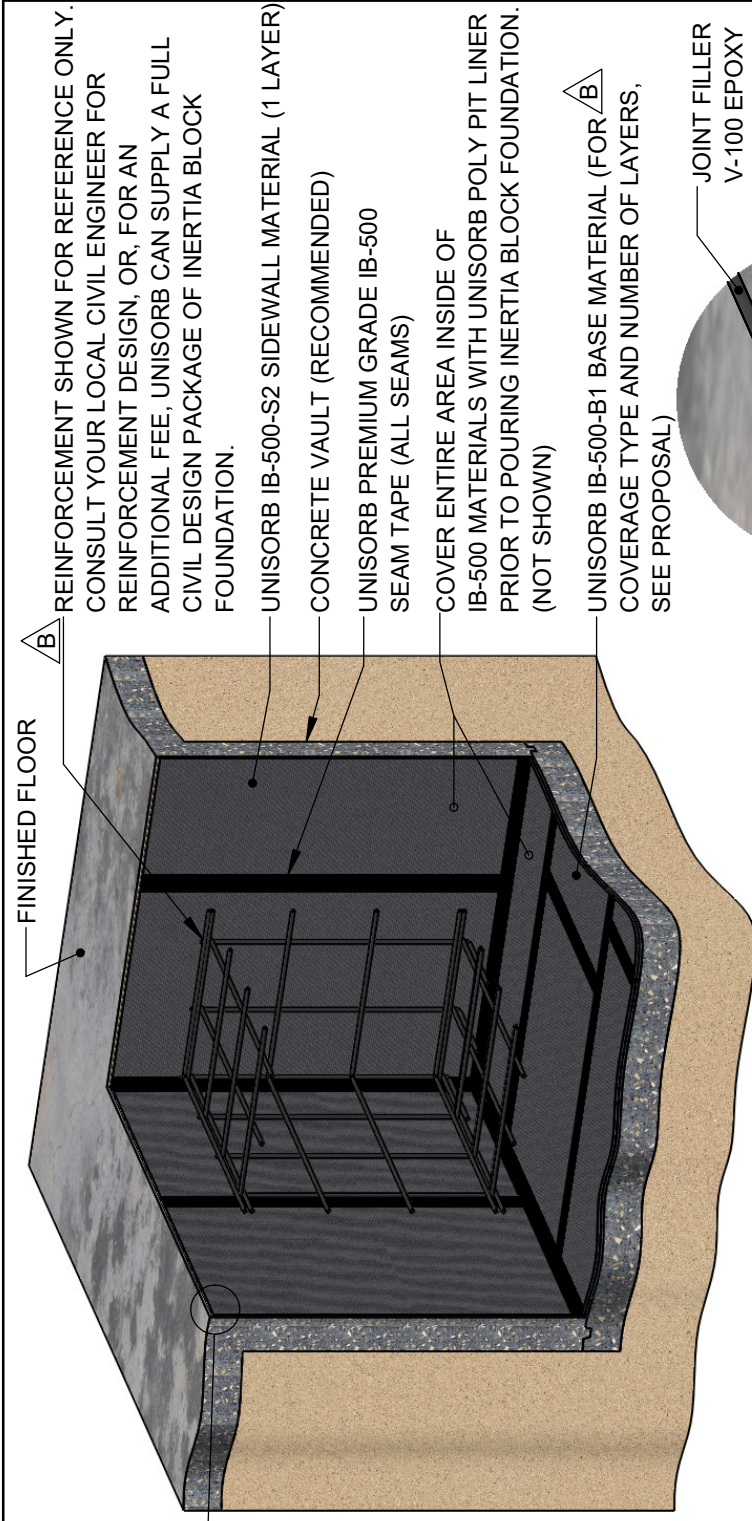
Consists of (1) epoxy resin pail, (1) epoxy grout hardener pail. Traditional epoxy mixing paddle is sold separately.



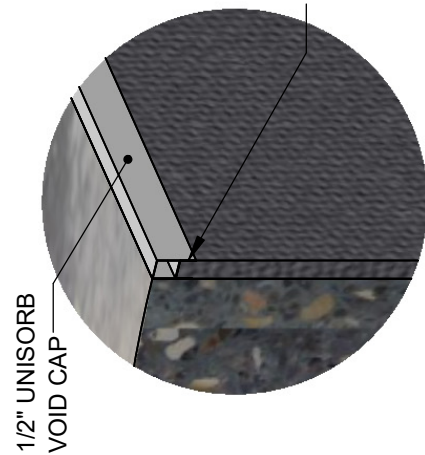
Grout Spout®

The Unisorb Grout Spout helps you deliver Joint Filler V-100 Epoxy Grout exactly where you want it, while cutting down on drips, spills, and cleanup.

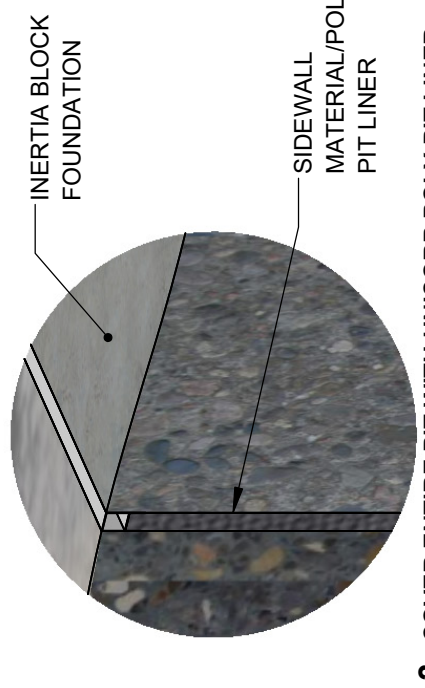




1. ALLOW 1/2" SPACE ABOVE IB-500-S2 SIDEWALL MATERIAL FOR JOINT FILLER.

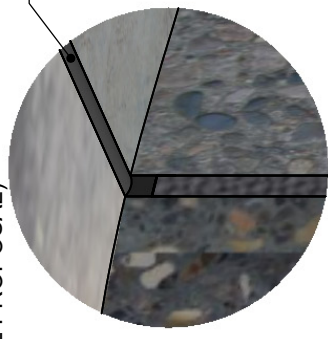


2. FILL SPACE WITH 1/2" UNISORB VOID CAP.

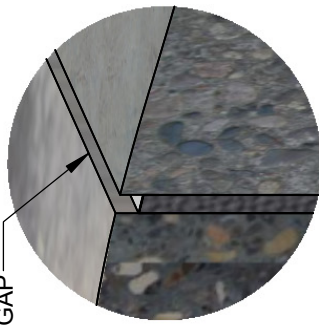


3. COVER ENTIRE PIT WITH UNISORB POLY PIT LINER AND POUR INERTIA BLOCK FOUNDATION.

5. PREPARE GAP AND POUR JOINT FILLER V-100 EPOXY GROUT.



4. REMOVE TOP PORTION OF UNISORB VOID CAP, LEAVING A 1/2" GAP.



B	ADDED REBAR FOR REF ONLY, CHANGED NOTE BASE	WLL	11/12/2018	DLS	11/12/2018
A	REDRAWN IN SW	WLL	5-4-18	DLC	5-4-18
REV.	DESCRIPTION	BY	DATE	CHK'D	DATE



INSTALLATION SOLUTIONS

UNLESS OTHERWISE SPECIFIED:
ALL SHARP CORNERS TO BE BROKEN.
ALL BURRS TO BE REMOVED.
STAMP ALL PARTS WITH DRAWING NO.
IN LOCATION MARKED BY 

LIMIT ON DIMENSIONS	
1 PLACE	±0.02
2 PLACE	±0.01
3 PLACE	±0.005
FRACTIONAL	±.08"

PRELIMINARY DRAWING

FINAL DRAWING

CONCEPTUAL

PROPRIETARY AND CONFIDENTIAL

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CUSTOMER / PROJECT: -

MACHINE: -

DRWN BY: WLL DATE: 5-4-18

CHK'D BY: DT DATE: 5-4-18

DO NOT SCALE DRAWING

SCALE: NONE

ADDED REBAR FOR REF ONLY, CHANGED NOTE BASE

REDRAWN IN SW

DESCRIPTION

WLL

WLL

BY

11/12/2018

5-4-18

DATE

DLS

DLC

CHK'D

11/12/2018

5-4-18

DATE

4117 FELTERS ROAD, MICHIGAN CENTER, MI 49254

517-764-6060 — www.UNISORB.com

TITLE: TYPICAL IB INSTALL DETAIL, (1) LAYER OF SIDEWALL

DWG. NO.

409940-16

SHT REV

1/1

B

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