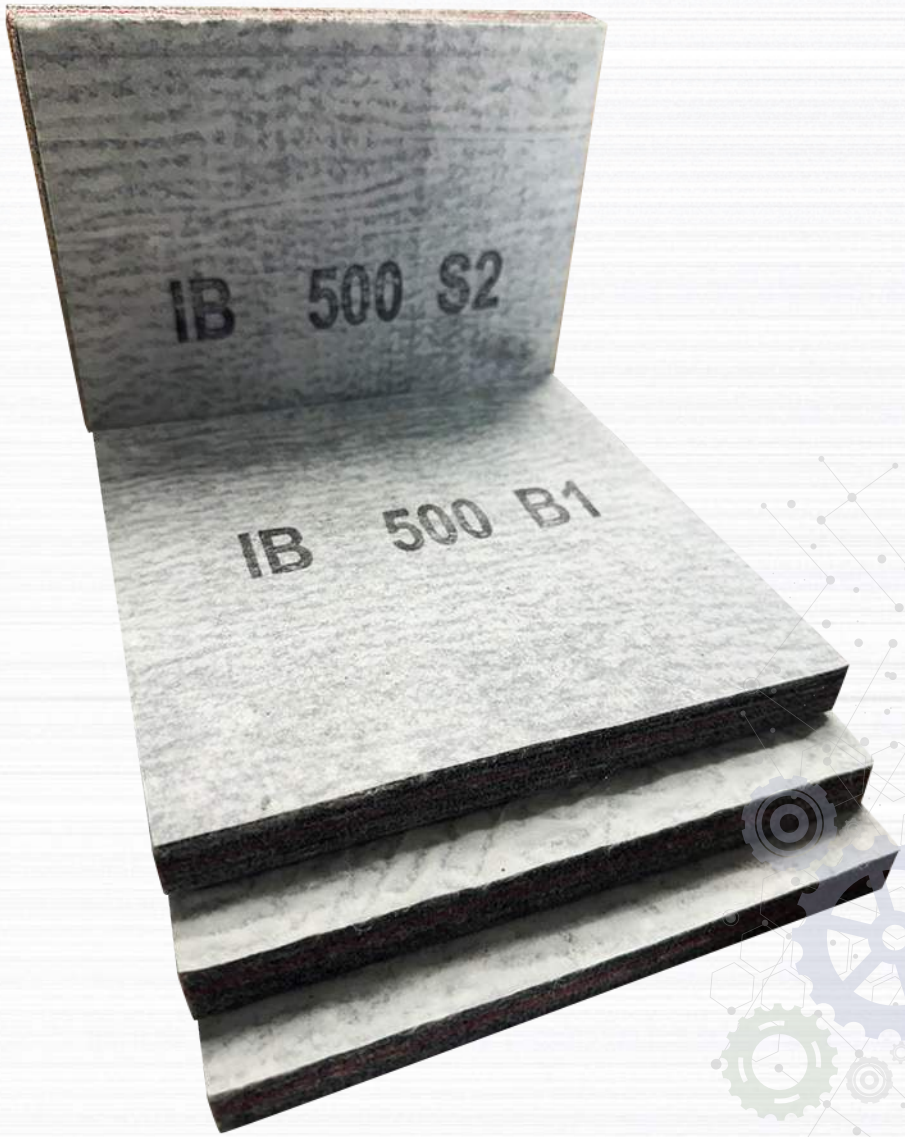
UNISORB®

INSTALLATION SOLUTIONS

IB-500™ Foundation Isolation System



4117 FELTERS ROAD, MICHIGAN CENTER, MI 49254
517-764-6060 • 888-486-4767
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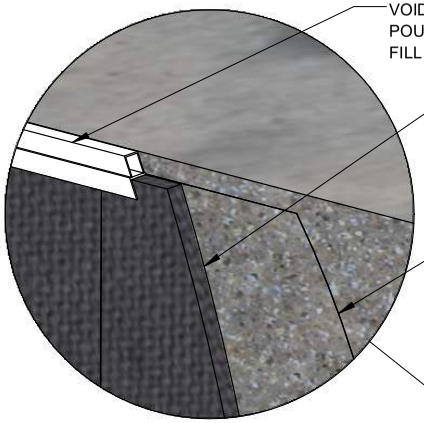
NOTES:
1. USE UNISORB PREMIUM GRADE IB-500 SEAM TAPE ON ALL SEAMS. △C
2. OFFSET SEAMS BETWEEN LAYERS OF IB-500-B1.
3. LINE FOUNDATION CAVITY WITH UNISORB POLY PIT LINER.
4. SEE UNISORB DWG NO. 409940-16 FOR FURTHER FOUNDATION PRODUCT DETAILS.



VOID CAP. AFTER THE INERTIA BLOCK FOUNDATION HAS BEEN POURED AND CURED, PEEL OFF TOP PORTION OF VOID CAP AND FILL VOID WITH UNISORB JOINT FILLER V-100 EPOXY GROUT.

UNISORB IB-500-S2 SIDEWALL ISOLATION MATERIAL (1 LAYER REQUIRED). TAPE ALL SEAMS WITH UNISORB PREMIUM GRADE IB-500 SEAM TAPE.

UNISORB POLY PIT LINER

INERTIA BLOCK FOUNDATION

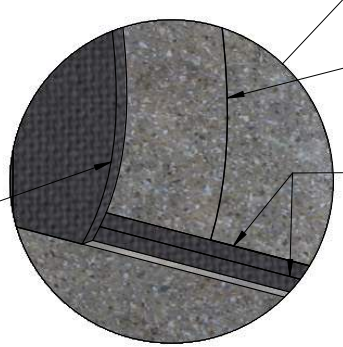
OPTIONAL CONCRETE VAULT MAY BE OMITTED IF SOIL CONDITIONS PERMIT.

UNISORB POLY PIT LINER

REINFORCEMENT SHOWN FOR REFERENCE ONLY. △C CONSULT YOUR LOCAL CIVIL ENGINEER FOR REINFORCEMENT DESIGN, OR, FOR AN ADDITIONAL FEE, UNISORB CAN SUPPLY A FULL CIVIL DESIGN PACKAGE OF INERTIA BLOCK FOUNDATION.

3"-6" THICK CONCRETE SUB-BASE MAY BE OMITTED IF SOIL CONDITIONS PERMIT.

TAPE ALL SEAMS (ALL LAYERS) WITH UNISORB △D PREMIUM GRADE IB-500 SEAM TAPE.



UNISORB POLY PIT LINER

UNISORB IB-500-S2 SIDEWALL ISOLATION MATERIAL (1 LAYER REQUIRED). TAPE ALL SEAMS WITH UNISORB PREMIUM GRADE IB-500 SEAM TAPE.

UNISORB IB-500-B1 BASE ISOLATION PAD MATERIAL. (2 LAYERS REQUIRED)

REV.	DESCRIPTION	BY	DATE	CHK'D	DATE
D	ADDED "ALL LAYERS" TO NOTE	WLL	4/26/2022	DLS	4/26/2022
C	ADDED REBAR FOR REF ONLY, REVISED NOTE 1	WLL	11/9/2018	DLS	11/9/2018
B	DRAWN IN SOLIDWORKS	WLL	10-17-17	DT	10-17-17

-	PRELIMINARY DRAWING
-	FINAL DRAWING
X	CONCEPTUAL

UNLESS OTHERWISE SPECIFIED:
ALL SHARP CORNERS TO BE BROKEN.
ALL BURRS TO BE REMOVED.
STAMP ALL PARTS WITH DRAWING NO. IN LOCATION MARKED BY (NO)
SURFACE FINISH 250

LIMIT ON DIMENSIONS

	INCHES	METRIC
1 PLACE	±0.2	±5mm
2 PLACE	±0.1	±2.5 mm
3 PLACE	±0.02	±.5 mm
4 PLACE	±0.005	
FRACTIONAL	± 1/8"	

DO NOT SCALE DRAWING
SCALE: NONE

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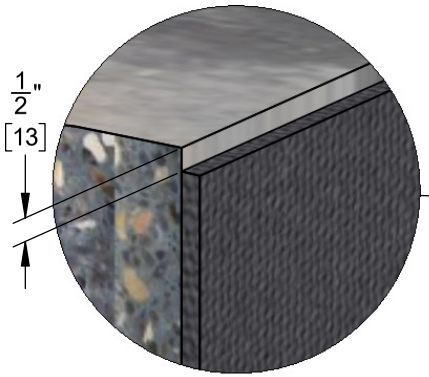
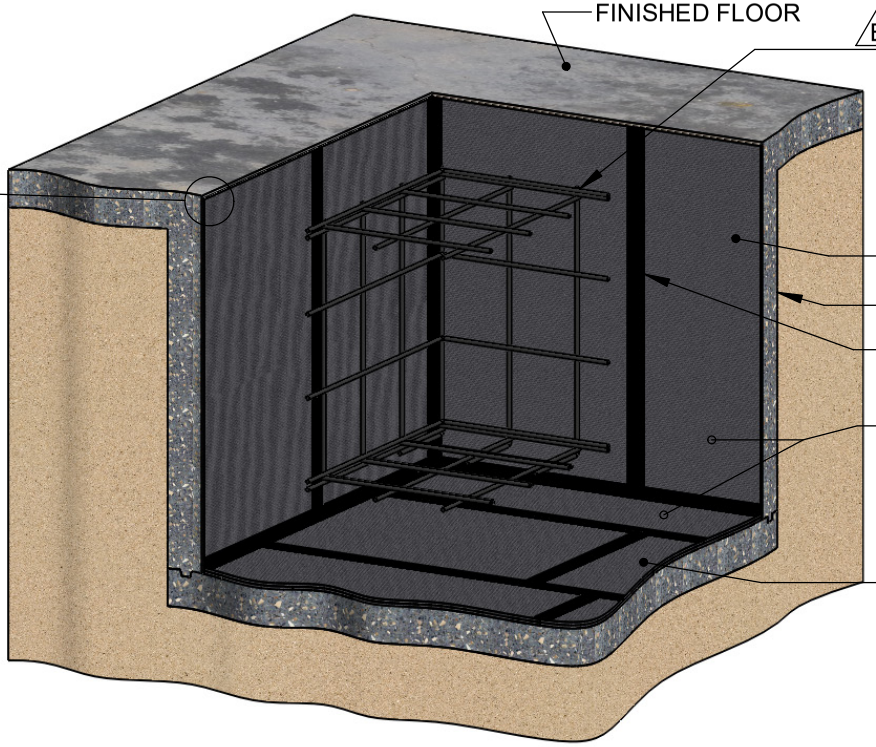
TITLE: ISOLATED FOUNDATION, IB-500, 2 LAYER BASE, 1 LAYER SIDEWALL
CUSTOMER / PROJECT: -
MACHINE: -
MATERIAL: -
DRWN BY: WLL DATE: 10-17-17
CHK'D BY: DT DATE: 10-17-17

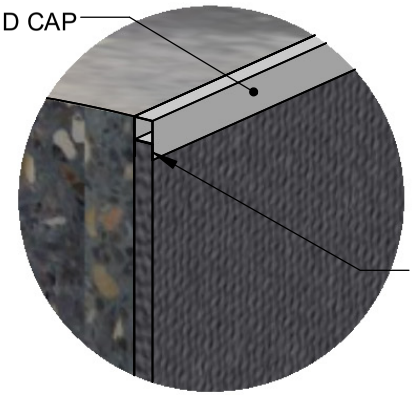
DWG. NO. **409940-01**
SHT 1/1
REV **D**

DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.

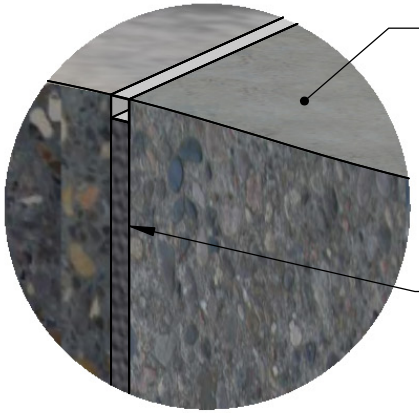


1. ALLOW 1/2" SPACE ABOVE IB-500-S2 SIDEWALL MATERIAL FOR JOINT FILLER.

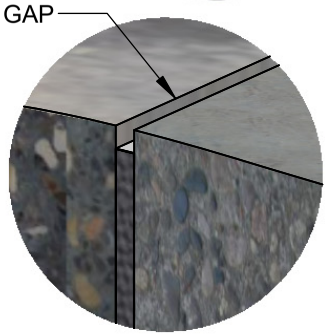




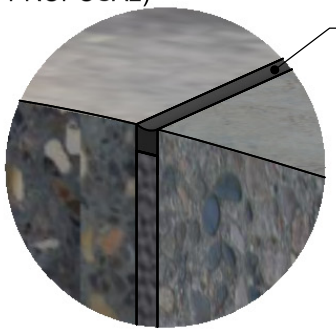
2. FILL SPACE WITH 1/2" UNISORB VOID CAP.



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



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



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

REV.	DESCRIPTION	BY	DATE	CHK'D	DATE
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

-	PRELIMINARY DRAWING
-	FINAL DRAWING
X	CONCEPTUAL

UNLESS OTHERWISE SPECIFIED:
ALL SHARP CORNERS TO BE BROKEN.
ALL BURRS TO BE REMOVED.
STAMP ALL PARTS WITH DRAWING NO. IN LOCATION MARKED BY (NO)
SURFACE FINISH 250

LIMIT ON DIMENSIONS

	INCHES	METRIC
1 PLACE	±0.2	±3 mm
2 PLACE	±0.1	±1.5 mm
3 PLACE	±0.02	±.5 mm
	±0.005	
FRACTIONAL	± 1/8"	

DO NOT SCALE DRAWING
SCALE: NONE

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TITLE: TYPICAL IB INSTALL DETAIL, (1) LAYER OF SIDEWALL
CUSTOMER / PROJECT: -
MACHINE: -
MATERIAL: -
DRWN BY: WLL DATE: 5-4-18
CHK'D BY: DT DATE: 5-4-18
DWG. NO. **409940-16**
SHT 1/1
REV **B**

DOCUMENT IS ELECTRONICALLY CONTROLLED. VERIFY REV PRIOR TO USE.

UNISORB®
INSTALLATION SOLUTIONS

GB-0033-2

Technical Specifications for IB-500™ Isolation Materials

General Information

Composition

Pad	• Proprietary blend of multiple diameter & length • 100% inorganic synthetic fibers permanently interlocked by the Lowderbach 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.
Place of Manufacture	United States of America

Specific Information

IB-500-S2 Sidewall Material

Thickness	1/2” (typical installation requires one layer on sidewalls)
Rated Load	0-12 psiRecommended
Load	2-10 psi (for maximum cost/benefit ratio)

IB-500-B1 Base Isolation Material

Thickness	1” (typical installation requires two layers on base, making 1” total base isolation thickness)
Rated Load	0-20 psi
Recommended Load	2-15 psi (for maximum cost/benefit ratio)

IB-500-B5 Base Isolation Material

Thickness	1” (typical installation requires two layers on base, making 1” total base isolation thickness)
Rated Load	0-32 psi
Recommended Load	15-28 psi (for maximum cost/benefit ratio)

Instructions for Installing Unisorb IB-500™ Materials

1 After the pit is prepared for the foundation, place the sidewall materials along the walls of the pit. Be sure to place the bottom edges of the sidewall material all the way down to the bottom of the pit.

Approximately ½" of space should be left at the top edge of the sidewall material to allow for the use of Unisorb Joint Filler V-100 Epoxy Grout. This space can be temporarily filled with a ½" Unisorb Void Cap, to be removed after the concrete is poured. Fasten the IB-500 sidewall material to the sides of the pit using Unisorb Premium Grade IB-500 Seam Tape extended down about 12" from the top of the IB-500 sidewall material, and fasten to the surface of the surrounding floor. Apply seam tape several places along the sidewalls to assure that the IB-500 material will stay in place. If a pit liner (vault) is constructed, the IB-500 sidewall material may be adhered to the walls with a good grade of construction adhesive. Cutting some of the sheets will be necessary if only full sheets are purchased. Unisorb IB-500 materials may be cut with a sharp utility knife, using a straight edge. Tape all seams and corners on each layer with Unisorb Premium Grade IB-500 Seam Tape.

DO NOT USE NAILS OR ANY OTHER OBJECT THAT WOULD PUNCTURE THE IB-500 MATERIAL OR OTHERWISE CAUSE A "SHORT CIRCUIT" IN THE FOUNDATION ISOLATION SYSTEM.

2 Lay the base materials on the floor of the pit. Cutting of some of the sheets will be necessary if only full sheets are purchased. If partial coverage (stripped base) using plywood is specified, a pit liner (vault) is recommended (6" thick floor and 4" thick walls, minimum). Extra care should be exercised to follow the Unisorb layout drawing for the placement of the base materials. Tape all seams and corners on each layer with Unisorb Premium Grade IB-500 Seam Tape.

3 Line the entire pit with a layer of Unisorb Poly Pit Liner after the base and sidewall materials are in place and after all seams are taped. This will prevent concrete from creeping through any gaps in the IB-500 materials and making contact with the ground, thus "short-circuiting" the isolated foundation.

4 Plywood squares or 2 x 4's may be spaced at intervals on top of the base IB-500 material for supporting reinforcing rods or rebar chairs for the concrete inertia block. Be sure that the rods do not puncture the IB-500 material.

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 sidewalls.

6 After the concrete is set, remove the Unisorb ½" Void Caps from the perimeter of the pit. Fill any visible cracks with a soft caulk (such as silicone) to prevent leakage of the joint filler material. Fill the void with the Joint Filler V-100 Epoxy Grout. Instructions for mixing and applying the joint filler are provided with the product.

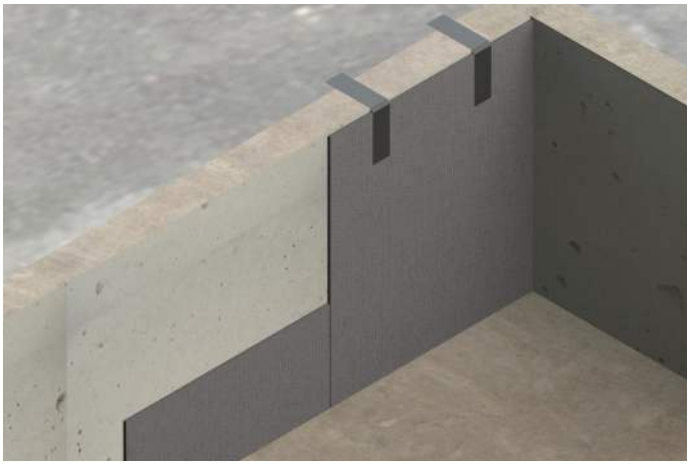
UNISORB®
INSTALLATION SOLUTIONS

Instructions for Installing Unisorb IB-500™ Materials

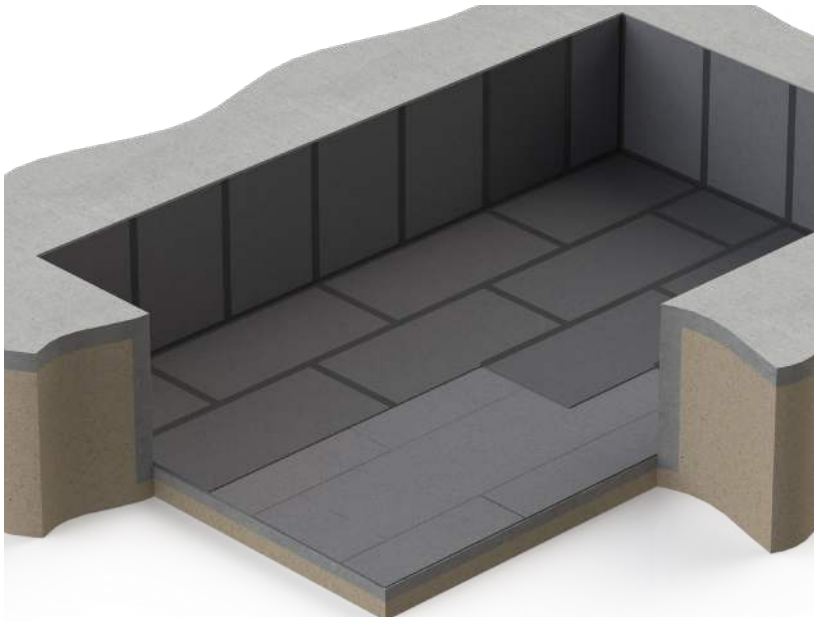
(Using a Concrete Lined Pit)

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.

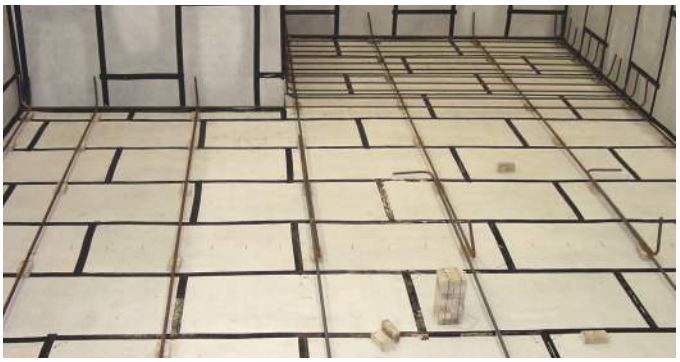


2 Lay the IB-500-BI base material on the floor of the pit. Partial sheets should be cut using a sharp utility knife and a straight edge. Place the top layer so that the seams of the top layer do not fall on the seams of the bottom layer. After installing the final layer, tape all seams with Premium Grade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



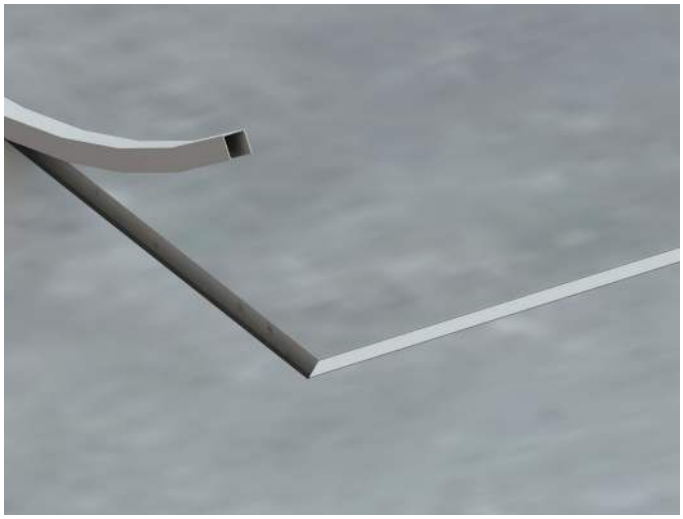
3 Line entire pit with Poly Pit Liner after the sidewall and base materials are in place and all seams are taped. This will prevent concrete from creeping through any gaps and making contact with the concrete, thus "short-circuiting" the isolated foundation.

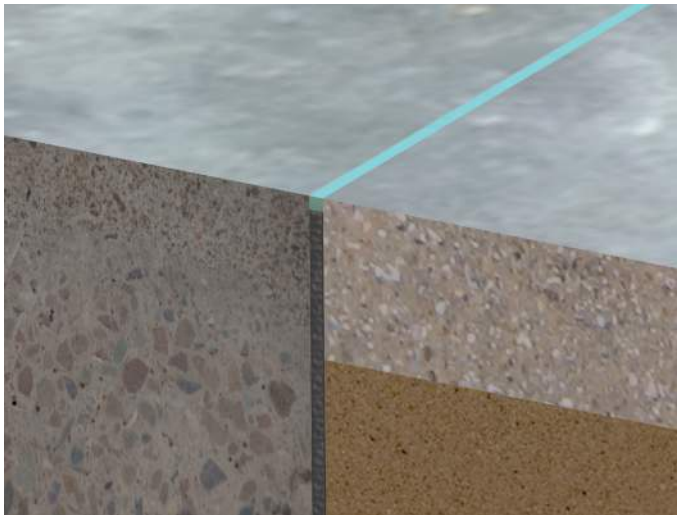
4 To prevent rebar from puncturing the IB-500-B1 base isolation material, and to spread the vertical load, use scrap wood, steel, or cement blocks directly under the rebar.



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.





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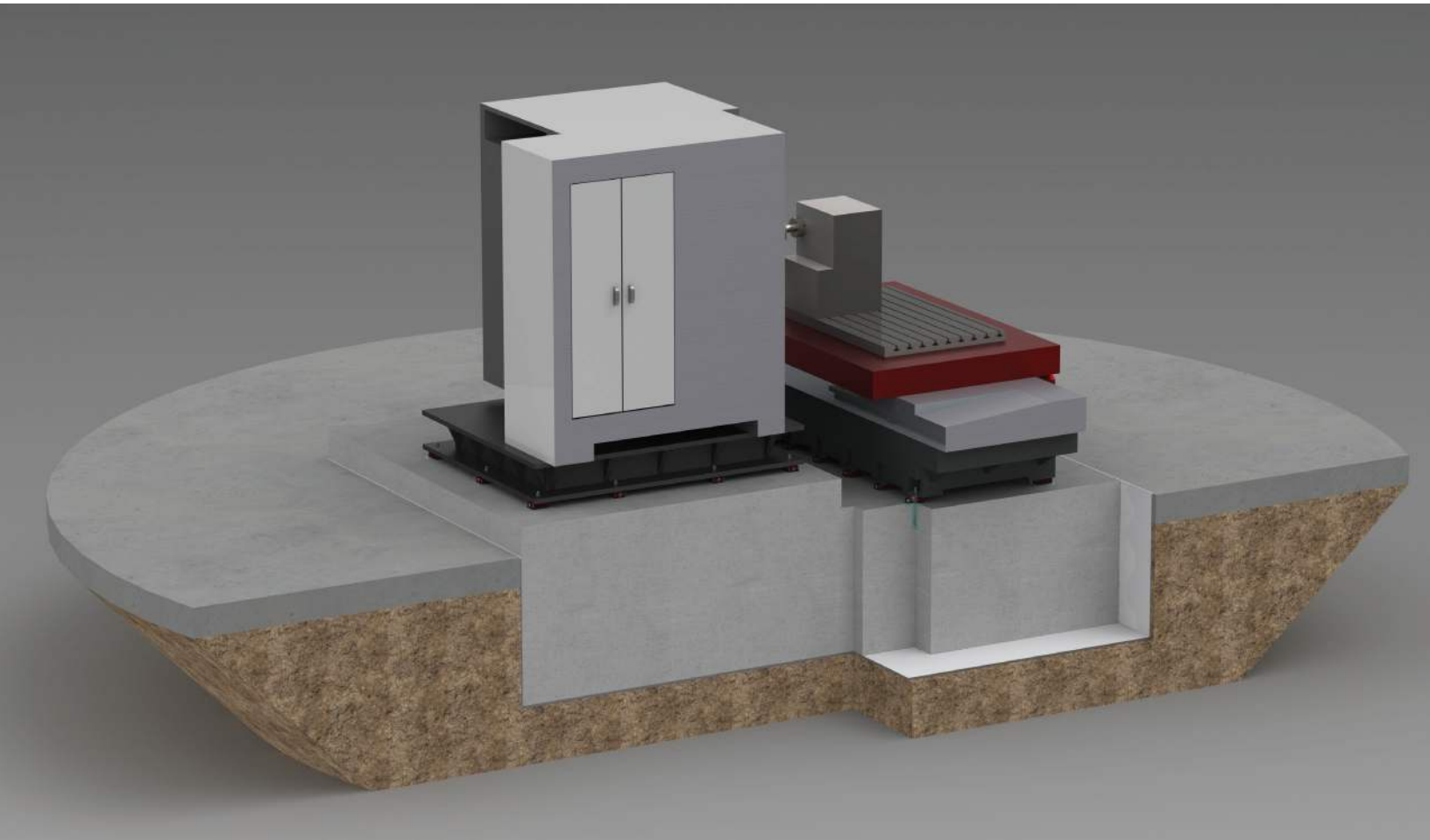
IB-500™ Isolated Foundation Design

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. Combined center of gravity of the machine and foundation should be below the top of the foundation. The center of gravity of the machine and foundation should pass through the center of the soil pressure diagram within 5% or so of any horizontal dimension.
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 run 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 run 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 amplitudes are present.
8. Anchor bolt locations should be no closer than 12" to foundation perimeter, or a distance equal to the embedment depth, 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.



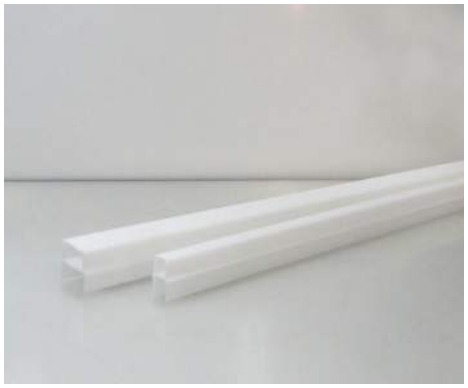
Accessory Products

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.

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