



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI PREAPPROVAL OF
MANUFACTURER'S CERTIFICATION (OPM)

OFFICE USE ONLY

APPLICATION #: OPM-0444

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal/Update

Manufacturer Information

Manufacturer: Legrand AV Inc. (Middle Atlantic)

Manufacturer's Technical Representative: Sudharsan Yogasuntharam

Mailing Address: 300 Fairefaild Road, Fairefield, NJ 07004

Telephone: (973) 839-1011

Email: sudharsan.yogasuntharam@legrand.com

Product Information

Product Name: BGR SERIES EQUIPMENT RACK ENCLOSURES

Product Type: Racks and Enclosures

Product Model Number: BGR-1927, BGR-2527, BGR-3827, BGR-4127, BGR-4527, BGR-2532, BGR-3832, BGR4132, BGR-4532, BGR-4138, BGR-4538

General Description: Gang-able Floor Standing Enclosures intended to enclose audio, video and IT equipment.

Applicant Information

Applicant Company Name: Legrand AV Inc. (Middle Atlantic)

Contact Person: Sudharsan Yogasuntharam

Mailing Address: 300 Fairefaild Road, Fairefield, NJ 07004

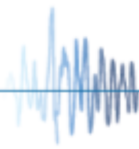
Telephone: (973) 839-1011

Email: sudharsan.yogasuntharam@legrand.com

Title: Compliance Engineer

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

Registered Design Professional Preparing Engineering Recommendations

Company Name: SIMPSON GUMPERTZ & HEGER
 Name: William Bruin California License Number: CE57867
 Mailing Address: 500 12th Street, Suite 270, Oakland, CA 94607
 Telephone: (510) 457-4456 Email: wmbuin@sgh.com

HCAI Special Seismic Certification Preapproval (OSP)

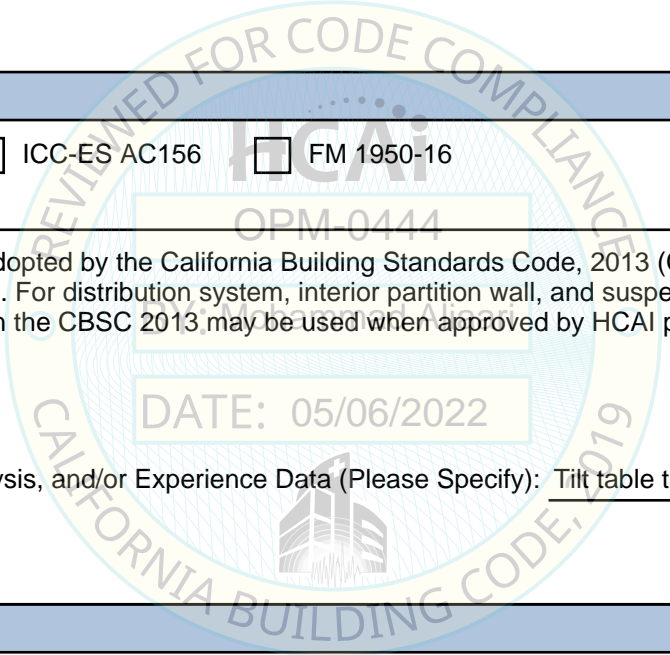
Special Seismic Certification is preapproved under OSP OSP Number: _____

Certification Method

Testing in accordance with: ICC-ES AC156 FM 1950-16
 Other(s) (Please Specify): _____

*Use of criteria other than those adopted by the California Building Standards Code, 2013 (CBSC 2013) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2013 may be used when approved by HCAI prior to testing.

- Analysis
- Experience Data
- Combination of Testing, Analysis, and/or Experience Data (Please Specify): Tilt table testing in addition to FEM analysis



HCAI Approval

Date: 5/6/2022
 Name: Mohammad Aliaari Title: Senior Structural Engineer
 Condition of Approval (if applicable): _____

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OPM-0444

BGR-SERIES HCAI

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| EFFECTIVE DATE: | TBD |
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A GENERAL

1. THIS HCAI PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC2016. THE DEMAND (DESIGN FORCE) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2016

2. THE WORK SHOWN ON THESE DRAWINGS IS FOR THE SEISMIC SUPPORTS & ATTACHMENTS OF THE SUBJECT RACK ENCLOSURES. MAXIMUM PERMISSIBLE CONTENT CAPACITIES FOR VARIOUS HEIGHTS WITHIN THE BUILDING ARE PROVIDED IN TABLES 1 THRU 7.

3. SEISMIC SUPPORTS & ATTACHMENTS DESIGN HAS BEEN DONE IN ACCORDANCE WITH THE 2016 EDITION OF THE CALIFORNIA BUILDING CODE, PART 2, VOLUME 2 OF 2, AND ASCE 7-10, USING THE FOLLOWING PARAMETERS:

$I_p = 1.5$ (CBC §1616A.1.17)
 $S_{DS} \leq 2.04G$
 $\Omega_0 = 2.0$ (CBC §1616A.1.23)
 $a_p = 2.5, R_p = 6$
 $Z, H = \text{VARIES}$

LATERAL FORCE, $F_{P,H} = [(0.4 a_p S_{DS} I_p W_p) / R_p] * (1 + 2 Z/H)$
 VERTICAL FORCE, $F_{P,V} = 0.2 S_{DS} W_p$

4. DESIGN LOADS SHOWN IN TABLE 1 ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.

5. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS & ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE. IT DOES NOT COVER THE COMPONENT OR ITS CONTENTS. IF THE RACKS CONTAIN INTERNAL COMMUNICATION SERVERS & ROUTERS, SPECIAL SEISMIC CERTIFICATION IS REQUIRED.

6. MFR RESPONSIBLE FOR EQUIPMENT INCLUDING SEISMIC BRACKETS. CONTRACTOR RESPONSIBLE FOR ANCHOR HARDWARE & INSTALLATION.

INSTALLATION NOTES

1. RACK ENCLOSURES MAY BE ANCHORED TO EITHER A SAND LIGHT-OR NORMAL-WEIGHT, REINFORCED CONCRETE FLOOR OR SLAB (TABLES 2-4) OR SAND LIGHT- OR NORMAL-WEIGHT CONCRETE FILL OVER METAL DECK (TABLES 5-7). IN ALL CASES, THE MINIMUM CONCRETE COMPRESSIVE STRENGTH (F'C) SHALL BE 3,000 PSI.

2. REINFORCED CONCRETE FLOOR SLAB (OR CONCRETE FILL OVER METAL DECK) SHALL HAVE MINIMUM THICKNESS BASED ON THE ANCHOR TYPES AS NOTED IN TABLE 8 AND 9

3. INSTALLATION OF THE RACK ENCLOSURES IS LIMITED TO INTERIOR LOCATIONS ONLY, WHERE DESIGN IS CONTROLLED BY SEISMIC FORCES.

4. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.

5. SEOR MUST ENSURE THE ENCLOSURE RACK IS LOADED SO THAT THE CG IS NO HIGHER THAN THE CG SHOWN HEREIN. THE EQUIPMENT MANUFACTURER HAS DESIGNED THE UNIT TO MAKE THE C.G. LESS THAN OR EQUAL TO THE HEIGHT DIMENSION SHOWN ON SHEETS 6 & 7.

FOOTNOTES TABLE 1

1. INCLUDES ALL BGR SERIES RACK ENCLOSURES UP TO A HEIGHT OF 45 SPACES.
2. DEMAND LOADS ARE MAXIMUM ULTIMATE LOADS PER ANCHOR, INCLUDING AN OVERSTRENGTH FACTOR ($\Omega_0 = 2.0$).
3. DEMAND LOADS ARE THE WORST CASE FOR A GIVEN ANCHOR AND ELEVATION COMBINATION, LOADED TO THE CONTENT CAPACITIES PROVIDED IN THE REFERENCED TABLES.

TABLE 1: MAXIMUM DEMAND LOADS FOR BGR SERIES ENCLOSURES (SEE FOOTNOTES 1-3)

| Anchor Type (Reference Table) | Demand Parameter | Maximum Shear (V_u) and Tension (T_u) Per Anchor (pounds) | | | |
|---|---------------------|---|------|------|----------|
| | | Elevation in Building (z/h) | | | |
| | | 0 (Ground) | 1/3 | 2/3 | ≤ 1 |
| Epoxy Anchor Solid Slab of NW Concrete (Table 2) | V_u | 826 | 826 | 1019 | 1285 |
| | T_u | 2588 | 2588 | 2859 | 2819 |
| Expansion Anchor Solid Slab of NW Concrete (Table 3) | V_u | 786 | 786 | 999 | 1036 |
| | T_u | 1898 | 1898 | 1882 | 1916 |
| Expansion Anchor Solid Slab of Sand LW Concrete (Table 4) | V_u | 741 | 741 | 729 | 724 |
| | T_u | 1300 | 1300 | 1296 | 1272 |
| Expansion Anchor NW Concrete Fill over Deck (Table 5) | V_u | 733 | 733 | 729 | 714 |
| | T_u | 1222 | 1222 | 1219 | 1254 |
| Expansion Anchor Sand LW Concrete Fill over Deck (Table 6) | V_u | 502 | 502 | 497 | 489 |
| | T_u | 835 | 835 | 842 | 845 |
| Thru-Bolt Connection Concrete Fill over Deck (Table 7) | V_u | 1376 | 1376 | 1376 | 1376 |
| | T_u | 2189 | 2189 | 2189 | 2189 |



Date Signed: 1/7/2022

| | | | |
|--------------------------|--|-------|--------------------------------|
| USED ON: -- | APPROVALS: MODELED | DATE: | Middle Atlantic Products, Inc. |
| NEXT ASBY: -- | DRAWN | | |
| MATERIAL: SEE COMPONENTS | CIRCLED DIMENSIONS ARE CRITICAL INSPECTION DIMENSIONS UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMAL: 2 PLC 0.03 3 PLC 0.03 FRACTIONS: 16/32 ANGLES: 30' | | TITLE: BGR-SERIES HCAI |
| FINISH: -- | SCALE: 1/8" | | PART NO.: |
| | | | SIZE: 31 |
| | | | DFW NO. NONE |
| | | | DWG NO.: |

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BGR-SERIES HCAI

A RACK ENCLOSURE CAPACITY TABLES

TABLE 2: BGR SERIES ENCLOSURES & MAXIMUM HCAI SEISMIC CONTENT CAPACITY WITH APPROVED EPOXY ANCHORING SYSTEM IN SOLID SLAB NORMAL WEIGHT CONCRETE (SEE FOOTNOTES 1-4)

| RACK ENCLOSURE | ELEVATION IN BUILDING (Z/H) | | | |
|----------------|-----------------------------|------|------|------|
| | GROUND | 1/3 | 2/3 | ≤1.0 |
| BGR-1927 | 1200 | 1200 | 1200 | 1200 |
| BGR-2527 | 1200 | 1200 | 1200 | 1200 |
| BGR-3827 | 1200 | 1200 | 1150 | 850 |
| BGR-4127 | 1200 | 1200 | 1050 | 800 |
| BGR-4527 | 1100 | 1100 | 980 | 720 |
| BGR-2532 | 1200 | 1200 | 1200 | 1200 |
| BGR-3832 | 1200 | 1200 | 1150 | 850 |
| BGR-4132 | 1200 | 1200 | 1050 | 800 |
| BGR-4532 | 1200 | 1200 | 980 | 720 |
| BGR-4138 | 1200 | 1200 | 1050 | 800 |
| BGR-4538 | 1200 | 1200 | 980 | 720 |
| BGR-19SA-27 | 1200 | 1200 | 1200 | 1200 |
| BGR-25SA-27 | 1200 | 1200 | 1200 | 1150 |
| BGR-38SA-27 | 1200 | 1200 | 1100 | 800 |
| BGR-41SA-27 | 1200 | 1200 | 1000 | 750 |
| BGR-45SA-27 | 1100 | 1100 | 950 | 680 |
| BGR-25SA-32 | 1200 | 1200 | 1200 | 1150 |
| BGR-38SA-32 | 1200 | 1200 | 1100 | 800 |
| BGR-41SA-32 | 1200 | 1200 | 1000 | 750 |
| BGR-45SA-32 | 1200 | 1200 | 950 | 680 |

FOOTNOTES TABLE 2

1. INCLUDES ALL BGR SERIES RACK ENCLOSURES UP TO A HEIGHT OF 45 SPACES
2. RACK ENCLOSURES SHOULD BE INSTALLED WITH MIDDLE ATLANTIC BGR-Z4 SEISMIC BRACKETS AND 5/8" WELD WASHERS (BY CONTRACTOR) AT EACH ANCHOR LOCATION, AS DETAILED ON SHEET 6 AND 7.
3. THE SUPPORTED RACK ENCLOSURE CONTENTS SHALL BE DISTRIBUTED WITHIN THE ENCLOSURE SUCH THAT 50% OF THE TOTAL WEIGHT IS LOCATED WITHIN THE BOTTOM THIRD OF THE RACK ENCLOSURE HEIGHT, 25% IN THE MIDDLE THIRD, AND 25% IN THE TOP THIRD. CONTENTS ARE IN ADDITION TO UNIT SELF-WEIGHT
4. ANCHORAGE WITH HILTI HIT-RE 500 V3 (ICC-ES ESR 3184) OR SIMPSON STRONG-TIE SET-XP (ICC-ES ESR 2508). REFER TO TABLE 8.

TABLE 3: BGR SERIES ENCLOSURES & MAXIMUM HCAI SEISMIC CONTENT CAPACITY WITH APPROVED EXPANSION ANCHORS IN SOLID SLAB NORMALWEIGHT CONCRETE (SEE FOOTNOTES 1-4)

| RACK ENCLOSURE | ELEVATION IN BUILDING (Z/H) | | | |
|----------------|-----------------------------|------|------|-----|
| | GROUND | 1/3 | 2/3 | ≤1 |
| BGR-1927 | 1200 | 1200 | 1200 | 950 |
| BGR-2527 | 1200 | 1200 | 1050 | 800 |
| BGR-3827 | 1000 | 1000 | 750 | 550 |
| BGR-4127 | 900 | 900 | 680 | 500 |
| BGR-4527 | 850 | 850 | 600 | 450 |
| BGR-2532 | 1200 | 1200 | 1050 | 800 |
| BGR-3832 | 1000 | 100 | 750 | 550 |
| BGR-4132 | 900 | 900 | 680 | 500 |
| BGR-4532 | 850 | 850 | 600 | 450 |
| BGR-4138 | 900 | 900 | 680 | 500 |
| BGR-4538 | 850 | 850 | 600 | 450 |
| BGR-19SA-27 | 1200 | 1200 | 1200 | 950 |
| BGR-25SA-27 | 1200 | 1200 | 1050 | 750 |
| BGR-38SA-27 | 950 | 950 | 700 | 500 |
| BGR-41SA-27 | 900 | 900 | 650 | 450 |
| BGR-45SA-27 | 800 | 800 | 550 | 400 |
| BGR-25SA-32 | 1200 | 1200 | 1050 | 700 |
| BGR-38SA-32 | 950 | 950 | 700 | 500 |
| BGR-41SA-32 | 900 | 900 | 650 | 450 |
| BGR-45SA-32 | 800 | 800 | 550 | 400 |

FOOTNOTES TABLE 3

1. INCLUDES ALL BGR SERIES RACK ENCLOSURES UP TO A HEIGHT OF 45 SPACE
2. RACK ENCLOSURES SHOULD BE INSTALLED WITH MIDDLE ATLANTIC BGR-Z4 SEISMIC BRACKETS AND 5/8" WELD WASHERS (BY CONTRACTOR) AT EACH ANCHOR LOCATION, AS DETAILED ON SHEET 6 AND 7.
3. THE SUPPORTED RACK ENCLOSURE CONTENTS SHALL BE DISTRIBUTED WITHIN THE ENCLOSURE SUCH THAT 50% OF THE TOTAL WEIGHT IS LOCATED WITHIN THE BOTTOM THIRD OF THE RACK ENCLOSURE HEIGHT, 25% IN THE MIDDLE THIRD, AND 25% IN THE TOP THIRD. CONTENTS ARE IN ADDITION TO UNIT SELF-WEIGHT
4. ANCHORAGE WITH HILTI KWIK-BOLT TZ2 OR SIMPSON STRONG-TIE STRONG BOLT 2. REFER TO TABLE 8.

TABLE 4: BGR SERIES ENCLOSURES & MAXIMUM HCAI SEISMIC CONTENT CAPACITY WITH APPROVED EXPANSION ANCHORS IN SOLID SLAB SAND-LIGHTWEIGHT CONCRETE (SEE FOOTNOTES 1-4)

| RACK ENCLOSURE | ELEVATION IN BUILDING (Z/H) | | | |
|----------------|-----------------------------|------|-----|-----|
| | GROUND | 1/3 | 2/3 | ≤1 |
| BGR-1927 | 1150 | 1150 | 850 | 650 |
| BGR-2527 | 950 | 950 | 700 | 520 |
| BGR-3827 | 650 | 650 | 460 | 320 |
| BGR-4127 | 600 | 600 | 420 | 300 |
| BGR-4527 | 540 | 540 | 380 | 250 |
| BGR-2532 | 950 | 950 | 700 | 520 |
| BGR-3832 | 650 | 650 | 460 | 320 |
| BGR-4132 | 600 | 600 | 420 | 300 |
| BGR-4532 | 540 | 540 | 380 | 250 |
| BGR-4138 | 600 | 600 | 420 | 300 |
| BGR-4538 | 540 | 540 | 380 | 250 |
| BGR-19SA-27 | 1150 | 1150 | 850 | 600 |
| BGR-25SA-27 | 900 | 900 | 650 | 480 |
| BGR-38SA-27 | 600 | 600 | 420 | 300 |
| BGR-41SA-27 | 550 | 550 | 380 | 250 |
| BGR-45SA-27 | 500 | 500 | 320 | 200 |
| BGR-25SA-32 | 900 | 900 | 650 | 480 |
| BGR-38SA-32 | 600 | 600 | 420 | 300 |
| BGR-41SA-32 | 550 | 550 | 380 | 250 |
| BGR-45SA-32 | 500 | 500 | 320 | 200 |

FOOTNOTES TABLE 4

1. INCLUDES ALL BGR SERIES RACK ENCLOSURES UP TO A HEIGHT OF 45 SPACES
2. RACK ENCLOSURES SHOULD BE INSTALLED WITH MIDDLE ATLANTIC BGR-Z4 SEISMIC BRACKETS AND 5/8" WELD WASHERS (BY CONTRACTOR) AT EACH ANCHOR LOCATION, AS DETAILED ON SHEET 6 AND 7.
3. THE SUPPORTED RACK ENCLOSURE CONTENTS SHALL BE DISTRIBUTED WITHIN THE ENCLOSURE SUCH THAT 50% OF THE TOTAL WEIGHT IS LOCATED WITHIN THE BOTTOM THIRD OF THE RACK ENCLOSURE HEIGHT, 25% IN THE MIDDLE THIRD, AND 25% IN THE TOP THIRD. CONTENTS ARE IN ADDITION TO UNIT SELF-WEIGHT
4. ANCHORAGE WITH HILTI KWIK-BOLT TZ2 OR SIMPSON STRONG-TIE STRONG BOLT 2. REFER TO TABLE 8.



Date Signed: 1/7/2022

| | | | |
|--------------------------|---|-------|--------------------------------|
| USED ON: -- | APPROVALS: MODELLED | DATE: | Middle Atlantic Products, Inc. |
| NEXT ASSY: -- | DRAWN: | | |
| MATERIAL: SEE COMPONENTS | CIRCLED DIMENSIONS ARE CRITICAL. INSPECTION DIMENSIONS UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMAL: 2 PLC .003 3 PLC .005 FRACTIONS: 1/32 ANGLES: 30° | | TITLE: BGR-SERIES HCAI |
| FINISH: -- | SCALE: 1/8" | | PART NO.: |
| | | | SIZE: 31 |
| | | | DWG NO.: |

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BGR-SERIES HCAI

TABLE 5: BGR SERIES ENCLOSURES & MAXIMUM HCAI SEISMIC CONTENT CAPACITY WITH APPROVED EXPANSION ANCHORS IN NORMAL WEIGHT CONCRETE FILL OVER METAL DECK (SEE FOOTNOTES 1-4)

| RACK ENCLOSURE | ELEVATION IN BUILDING (Z/H) | | | |
|----------------|-----------------------------|------|-----|-----|
| | GROUND | 1/3 | 2/3 | ≤1 |
| BGR-1927 | 1150 | 1150 | 850 | 640 |
| BGR-2527 | 950 | 950 | 680 | 500 |
| BGR-3827 | 600 | 600 | 450 | 300 |
| BGR-4127 | 550 | 550 | 400 | 280 |
| BGR-4527 | 500 | 500 | 350 | 250 |
| BGR-2532 | 950 | 950 | 680 | 500 |
| BGR-3832 | 600 | 600 | 450 | 300 |
| BGR-4132 | 550 | 550 | 400 | 280 |
| BGR-4532 | 500 | 500 | 350 | 250 |
| BGR-4138 | 550 | 550 | 400 | 280 |
| BGR-4538 | 500 | 500 | 350 | 250 |
| BGR-19SA-27 | 1100 | 1100 | 850 | 600 |
| BGR-25SA-27 | 900 | 900 | 650 | 450 |
| BGR-38SA-27 | 600 | 600 | 400 | 280 |
| BGR-41SA-27 | 500 | 500 | 350 | 240 |
| BGR-45SA-27 | 450 | 450 | 300 | 200 |
| BGR-25SA-32 | 900 | 900 | 650 | 450 |
| BGR-38SA-32 | 600 | 600 | 400 | 280 |
| BGR-41SA-32 | 500 | 500 | 350 | 240 |
| BGR-45SA-32 | 450 | 450 | 300 | 200 |

TABLE 6: BGR SERIES ENCLOSURES & MAXIMUM HCAI SEISMIC CONTENT CAPACITY WITH APPROVED EXPANSION ANCHORS IN SAND-LIGHTWEIGHT CONCRETE FILL OVER METAL DECK (SEE FOOTNOTES 1-4)

| RACK ENCLOSURE | ELEVATION IN BUILDING (Z/H) | | | |
|----------------|-----------------------------|-----|-----|-----|
| | GROUND | 1/3 | 2/3 | ≤1 |
| BGR-1927 | 750 | 750 | 550 | 400 |
| BGR-2527 | 600 | 600 | 440 | 320 |
| BGR-3827 | 400 | 400 | 250 | 180 |
| BGR-4127 | 340 | 340 | 220 | 150 |
| BGR-4527 | 300 | 300 | 200 | 120 |
| BGR-2532 | 600 | 600 | 440 | 320 |
| BGR-3832 | 400 | 400 | 250 | 180 |
| BGR-4132 | 340 | 340 | 220 | 150 |
| BGR-4532 | 300 | 300 | 200 | 120 |
| BGR-4138 | 340 | 340 | 220 | 150 |
| BGR-4538 | 300 | 300 | 200 | 120 |
| BGR-19SA-27 | 750 | 750 | 550 | 400 |
| BGR-25SA-27 | 580 | 580 | 400 | 280 |
| BGR-38SA-27 | 350 | 350 | 220 | 140 |
| BGR-41SA-27 | 300 | 300 | 180 | 100 |
| BGR-45SA-27 | 250 | 250 | 150 | 80 |
| BGR-25SA-32 | 580 | 580 | 400 | 280 |
| BGR-38SA-32 | 350 | 350 | 220 | 140 |
| BGR-41SA-32 | 300 | 300 | 180 | 100 |
| BGR-45SA-32 | 250 | 250 | 150 | 80 |

TABLE 7: BGR SERIES ENCLOSURES & MAXIMUM HCAI SEISMIC CONTENT CAPACITY WITH 1/2" THRU-BOLTS IN NORMALWEIGHT OR SAND-LIGHTWEIGHT CONCRETE FILL OVER METAL DECK. (SEE FOOTNOTES 1-4)

| RACK ENCLOSURE | ELEVATION IN BUILDING (Z/H) | | | |
|----------------|-----------------------------|------|------|------|
| | GROUND | 1/3 | 2/3 | ≤1 |
| BGR-1927 | 1200 | 1200 | 1200 | 1200 |
| BGR-2527 | 1200 | 1200 | 1200 | 1200 |
| BGR-3827 | 1200 | 1200 | 1200 | 1200 |
| BGR-4127 | 1200 | 1200 | 1200 | 1200 |
| BGR-4527 | 1200 | 1200 | 1200 | 1200 |
| BGR-2532 | 1200 | 1200 | 1200 | 1200 |
| BGR-3832 | 1200 | 1200 | 1200 | 1200 |
| BGR-4132 | 1200 | 1200 | 1200 | 1200 |
| BGR-4532 | 1200 | 1200 | 1200 | 1200 |
| BGR-4138 | 1200 | 1200 | 1200 | 1200 |
| BGR-4538 | 1200 | 1200 | 1200 | 1200 |
| BGR-19SA-27 | 1200 | 1200 | 1200 | 1200 |
| BGR-25SA-27 | 1200 | 1200 | 1200 | 1200 |
| BGR-38SA-27 | 1200 | 1200 | 1200 | 1200 |
| BGR-41SA-27 | 1200 | 1200 | 1200 | 1200 |
| BGR-45SA-27 | 1200 | 1200 | 1200 | 1200 |
| BGR-25SA-32 | 1200 | 1200 | 1200 | 1200 |
| BGR-38SA-32 | 1200 | 1200 | 1200 | 1200 |
| BGR-41SA-32 | 1200 | 1200 | 1200 | 1200 |
| BGR-45SA-32 | 1200 | 1200 | 1200 | 1200 |

FOOTNOTES TABLE 5

- INCLUDES ALL BGR SERIES RACK ENCLOSURES UP TO A HEIGHT OF 45 SPACES
- RACK ENCLOSURES SHOULD BE INSTALLED WITH MIDDLE ATLANTIC BGR-Z4 SEISMIC BRACKETS AND 5/8" WELD WASHERS (BY CONTRACTOR) AT EACH ANCHOR LOCATION, AS DETAILED ON SHEET 6 AND 7.
- THE SUPPORTED RACK ENCLOSURE CONTENTS SHALL BE DISTRIBUTED WITHIN THE ENCLOSURE SUCH THAT 50% OF THE TOTAL WEIGHT IS LOCATED WITHIN THE BOTTOM THIRD OF THE RACK ENCLOSURE HEIGHT, 25% IN THE MIDDLE THIRD, AND 25% IN THE TOP THIRD. CONTENTS ARE IN ADDITION TO UNIT SELF-WEIGHT
- ANCHORAGE WITH HILTI KWIK-BOLT TZ2 OR SIMPSON STRONG-TIE STRONG BOLT 2. REFER TO TABLE 9.

FOOTNOTES TABLE 6

- INCLUDES ALL BGR SERIES RACK ENCLOSURES UP TO A HEIGHT OF 45 SPACE
- RACK ENCLOSURES SHOULD BE INSTALLED WITH MIDDLE ATLANTIC BGR-Z4 SEISMIC BRACKETS AND 5/8" WELD WASHERS (BY CONTRACTOR) AT EACH ANCHOR LOCATION, AS DETAILED ON SHEET 6 AND 7.
- THE SUPPORTED RACK ENCLOSURE CONTENTS SHALL BE DISTRIBUTED WITHIN THE ENCLOSURE SUCH THAT 50% OF THE TOTAL WEIGHT IS LOCATED WITHIN THE BOTTOM THIRD OF THE RACK ENCLOSURE HEIGHT, 25% IN THE MIDDLE THIRD, AND 25% IN THE TOP THIRD. CONTENTS ARE IN ADDITION TO UNIT SELF-WEIGHT
- ANCHORAGE WITH HILTI KWIK-BOLT TZ 2 OR SIMPSON STRONG-TIE STRONG BOLT 2. REFRE TO TABLE 9.

FOOTNOTES TABLE 7

- INCLUDES ALL BGR SERIES RACK ENCLOSURES UP TO A HEIGHT OF 45 SPACES
- RACK ENCLOSURES SHOULD BE INSTALLED WITH MIDDLE ATLANTIC BGR-Z4 SEISMIC BRACKETS AND 5/8" WELD WASHERS (BY CONTRACTOR) AT EACH ANCHOR LOCATION, AS DETAILED ON SHEET 6 AND 7.
- THE SUPPORTED RACK ENCLOSURE CONTENTS SHALL BE DISTRIBUTED WITHIN THE ENCLOSURE SUCH THAT 50% OF THE TOTAL WEIGHT IS LOCATED WITHIN THE BOTTOM THIRD OF THE RACK ENCLOSURE HEIGHT, 25% IN THE MIDDLE THIRD, AND 25% IN THE TOP THIRD. CONTENTS ARE IN ADDITION TO UNIT SELF-WEIGHT
- ANCHORAGE WITH 1/2" DIAMETER THRU-BOLTS OF ASTM F1554 GRADE 36 OR 105, WITH CONNECTION TO THE DECK SOFFIT AS DETAILED ON THE DRAWINGS. REFER TO TABLE 9.



Date Signed: 1/7/2022

| | | | |
|--------------------------|---|-------|--------------------------------|
| USED ON: -- | APPROVALS: MIDDLE | DATE: | Middle Atlantic Products, Inc. |
| NEXT ASBY: -- | DRAWN: | | |
| MATERIAL: SEE COMPONENTS | CIRCLED DIMENSIONS ARE CRITICAL. INSPECTION DIMENSIONS UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMAL: 2 PLC 0.03 3 PLC 0.03 FRACTIONS: 16/32 ANGLES: 30 | | TITLE: BGR-SERIES HCAI |
| FINISH: -- | SCALE: 1/8" | | PART NO.: |
| | | | SIZE: 31 |
| | | | DWG NO.: |
| | | | PART REV: |
| | | | DWG REV: |

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| EFFECTIVE DATE: | TED |
| PAGE | 4 of 8 |

BGR-SERIES HCAI

A CONCRETE ANCHOR NOTES

1. CONCRETE ANCHORS FOR THE SUBJECT RACK ENCLOSURES INSTALLED IN SOLID REINFORCED CONCRETE SHALL BE ONE OF THE TYPES LISTED IN TABLE 8, WITH THE DIAMETER, EMBEDMENT, AND EDGE DISTANCES SPECIFIED. ANCHORS SHALL BE OF CARBON STEEL AND FOLLOW ALL INSTALLATION REQUIREMENTS SPECIFIED IN THE CORRESPONDING ESR REPORTS.
2. CONCRETE ANCHORS FOR THE SUBJECT RACK ENCLOSURES INSTALLED IN TOP SIDE OF CONCRETE FILL OVER METAL DECK SHALL BE ONE OF THE TYPES LISTED IN TABLE 9, WITH THE DIAMETER, EMBEDMENT, AND EDGE DISTANCES SPECIFIED. ANCHORS SHALL BE OF CARBON STEEL AND FOLLOW ALL INSTALLATION REQUIREMENTS SPECIFIED IN THE CORRESPONDING ESR REPORTS
3. ALTERNATIVELY, SUBJECT RACK ENCLOSURES MAY BE INSTALLED IN TOP SIDE OF CONCRETE FILL OVER METAL DECK USING THE THRU-BOLT CONNECTION AS LISTED IN TABLE 9 AND SHOWN ON THE DRAWINGS.
4. LOCATE ALL EXISTING REINFORCING BARS WITHIN 12 INCHES OF PROPOSED ANCHOR LOCATIONS PRIOR TO DRILLING FOR CONCRETE ANCHORS. DO NOT CUT, CORE, OR DRILL THROUGH EXISTING REINFORCING BARS.
5. ALL CONCRETE ANCHORS SHALL BE INSTALLED WITH PROPER TOOLS AND PROCEDURES IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND ICC EVALUATION SERVICE REPORTS REFERENCED ABOVE.
6. CONCRETE ANCHORS REQUIRE SPECIAL INSPECTION FOR INSTALLATION IN ACCORDANCE WITH CBC TABLE 1705A.3.
7. CONCRETE ANCHORS SHALL BE TESTED A MINIMUM OF 24 HOURS AFTER INSTALLATION TO VERIFY PROPER INSTALLATION IN ACCORDANCE WITH CBC SECTION 1910A.5
8. A MINIMUM OF TWO ANCHORS (50%) PER ENCLOSURE MUST BE TESTED (CBC 1910A.5.3).
9. TESTING OF THE POST INSTALLED ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR & A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY (CBC 1910A.5.3)
10. ANCHORS SHALL BE TESTED TO LOADS SHOWN BELOW (CBC 1910A.5.4):
 - A) EPOXY ANCHORS IN NORMAL WEIGHT CONCRETE – 3700LB
 - B) 1/2" DIA EXPANSION ANCHORS IN NORMAL OR SAND-LIGHT WEIGHT CONCRETE: 50 FT-LB FOR KWIK-BOLT TZ2 OR 60FT-LB FOR STRONG BOLT 2
 - C) 3/8" DIA EXPANSION ANCHORS FOR UNDERSIDE OF METAL DECK (SEE SHEET 8): 30 FT-LB FOR STRONG BOLT 2

11. TEST ACCEPTANCE CRITERIA (CBC 1910A.5.5):

- A) HYDRAULIC RAM METHOD (EPOXY ANCHORS): ANCHOR SHALL MAINTAIN TEST LOAD FOR A MINIMUM OF 15 SECONDS AND SHALL EXHIBIT NO DISCERNIBLE MOVEMENT (AS EVIDENCED BY THE LOOSENING OF THE WASHER UNDER THE NUT)
- B) TORQUE WRENCH METHOD (EXPANSION ANCHORS): ANCHOR SHALL ATTAIN THE SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT.

BOLTS THROUGH CONCRETE ON METAL DECK

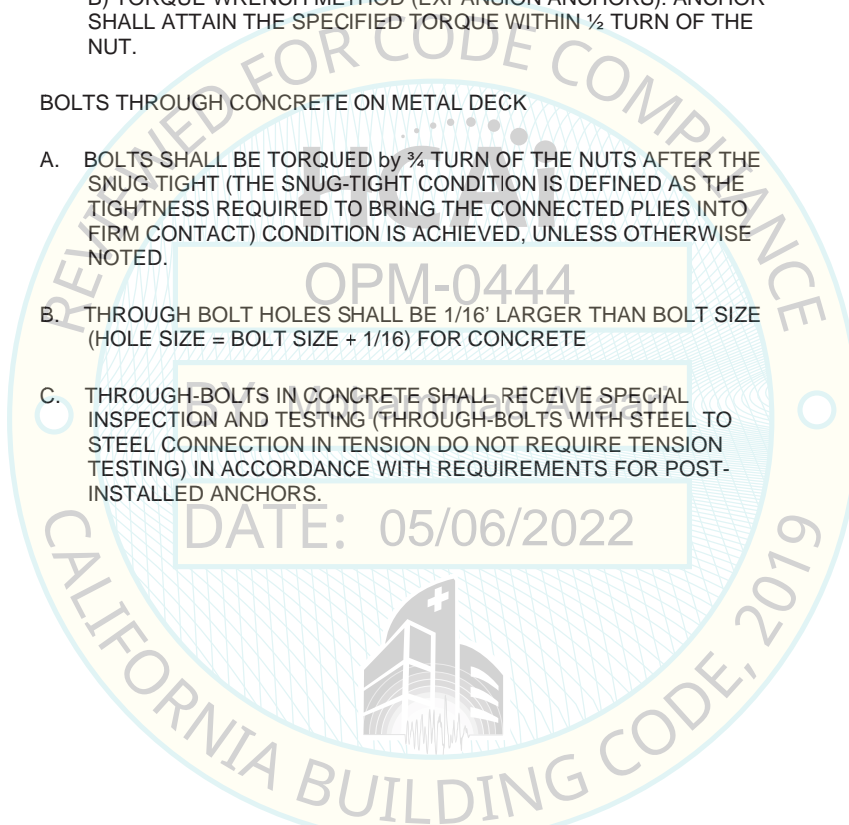
- A. BOLTS SHALL BE TORQUED BY 1/4 TURN OF THE NUTS AFTER THE SNUG-TIGHT (THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS REQUIRED TO BRING THE CONNECTED PLIES INTO FIRM CONTACT) CONDITION IS ACHIEVED, UNLESS OTHERWISE NOTED.
- B. THROUGH BOLT HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE (HOLE SIZE = BOLT SIZE + 1/16) FOR CONCRETE
- C. THROUGH-BOLTS IN CONCRETE SHALL RECEIVE SPECIAL INSPECTION AND TESTING (THROUGH-BOLTS WITH STEEL TO STEEL CONNECTION IN TENSION DO NOT REQUIRE TENSION TESTING) IN ACCORDANCE WITH REQUIREMENTS FOR POST-INSTALLED ANCHORS.

TABLE 8: ACCEPTABLE FASTENERS FOR ANCHORING OF THE BGR SERIES OF RACK ENCLOSURES TO SOLID REINFORCED CONCRETE (SEE NOTE 1)

| Anchor Type | ICC ESR | Anchor Diameter (inches) | MIN Embedment (inches) (hef) | MIN Slab Thickness (inches) | MIN Edge Distance (inches) | MIN Spacing (inches) (Note 5) |
|--|---------|--------------------------|------------------------------|-----------------------------|----------------------------|-------------------------------|
| HILTI HIT RE 500V3 Treaded Rod Epoxy (Notes 2,4) | 3814 | 0.5 | 6 | 8.5 | 6 | 18 |
| Simpson Strong-Tie Set-XP Threaded Rod Epoxy Anchors (Notes 2,4) | 2508 | 0.5 | 6 | 8.5 | 6 | 18 |
| HILTI KWIK Bolt TZ2 Expansion Anchors (Note 3) | 4266 | 0.5 | 3.25 | 6 | 6 | 18 |
| Simpson Strong-Tie Strong-Bolt 2 Expansion Anchors (Note 3) | 3037 | 0.5 | 3.375 | 6 | 6 | 18 |

NOTES TABLE 8

1. FOR NORMALWEIGHT OR SAND-LIGHTWEIGHT CONCRETE WITH A MINIMUM FC = 3000 PSI. EPOXY ANCHORS MAY ONLY BE USED IN NORMAL WEIGHT CONCRETE.
2. APPLIES TO THE BGR SERIES ENCLOSURES LISTED IN TABLES 1-4
3. APPLIES TO THE BGR SERIES ENCLOSURES LISTED IN TABLES 5-7 ALSO, PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.
4. STANDARD THREADED ROD SHALL BE ASTM F1554 GRADE 36, OR 105.
5. MINIMUM SPACING APPLIES TO MULTIPLE UNITS INSTALLED ADJACENT TO ONE ANOTHER, AND IS TAKEN AS THE DISTANCE FROM CENTERLINE TO CENTERLINE OF ANCHORS.



Date Signed: 1/7/2022



| | | | |
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| USED ON: -- | APPROVALS: MODELLED | DATE: | Middle Atlantic Products, Inc. |
| NEXT ASBY: -- | DRAWN: | | |
| MATERIAL: SEE COMPONENTS | CIRCLED DIMENSIONS ARE CRITICAL. INSPECTION DIMENSIONS UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMAL: 2 PLC .003 3 PLC .009 FRACTIONS: 1/32 ANGLES: 3/4 | SCALE: 1/8" | TITLE: BGR-SERIES HCAI |
| FINISH: -- | | | PART NO. PART REV. |
| | | | SEE: 31 DWG NO. NONE |
| | | | DWG NO. DWG REV. |

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| PAGE | 5 of 8 |

BGR-SERIES HCAI

TABLE 9: ACCEPTABLE FASTENERS FOR ANCHORING OF THE BGR SERIES OF RACK ENCLOSURES TO TOPSIDE OF CONCRETE FILL OVER METAL DECK (NOTES 1,2)

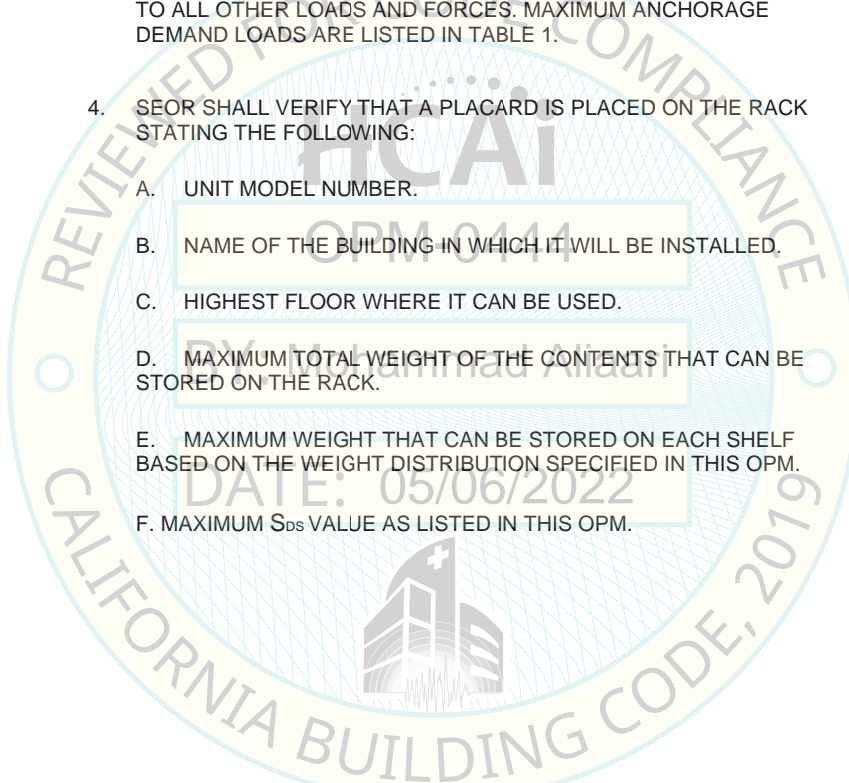
| Anchor Type | ICC ESR | Outside Diameter (inches) | Effective Embedment (inches) (hef) | MIN Thick Above/Within Flute (inches) | MIN Edge Distance (Inches) | MIN Spacing (inches) |
|--|---------|---------------------------|------------------------------------|---------------------------------------|----------------------------|----------------------|
| HILTI KWIK Bolt T22 Expansion Anchors | 4266 | 0.5 | 2 | 3.2 | 7.5 | 9 |
| Simpson Strong-Tie Strong-Bolt 2 Expansion Anchors | 3037 | 0.5 | 2.25 | 3.25/1.5 | 6 | 8 |
| ASTM F1554 Thru-Bolt (Note 3) | NA | 0.5 | NA | 3.25/1.5 | 6 | NA |

RESPONSIBILITIES OF THE SEOR

1. THE STRUCTURAL ENGINEER-OF-RECORD (SEOR) SHALL VERIFY THAT THE WEIGHT OF RACK ENCLOSURE CONTENTS DOES NOT EXCEED THE APPROVED CAPACITY FOR THE LOCATION OF INSTALLATION.
2. THE SEOR SHALL VERIFY THAT PROJECT SPECIFIC SEISMIC PARAMETERS (S_{DS} & z/h) DO NOT EXCEED THE DESIGN VALUES STATED ON THESE DRAWINGS
3. THE SEOR SHALL VERIFY THAT THE EXISTING STRUCTURE IS ADEQUATE TO SUPPORT THE LOADS AND REACTIONS IMPOSED BY THE ANCHORED RACK ENCLOSURE IN ADDITION TO ALL OTHER LOADS AND FORCES. MAXIMUM ANCHORAGE DEMAND LOADS ARE LISTED IN TABLE 1.
4. SEOR SHALL VERIFY THAT A PLACARD IS PLACED ON THE RACK STATING THE FOLLOWING:
 - A. UNIT MODEL NUMBER.
 - B. NAME OF THE BUILDING IN WHICH IT WILL BE INSTALLED.
 - C. HIGHEST FLOOR WHERE IT CAN BE USED.
 - D. MAXIMUM TOTAL WEIGHT OF THE CONTENTS THAT CAN BE STORED ON THE RACK.
 - E. MAXIMUM WEIGHT THAT CAN BE STORED ON EACH SHELF BASED ON THE WEIGHT DISTRIBUTION SPECIFIED IN THIS OPM.
 - F. MAXIMUM S_{DS} VALUE AS LISTED IN THIS OPM.
5. SEOR SHALL VERIFY THAT THE CONCRETE FLOOR MEETS THE REQUIREMENTS OF THIS PRE-APPROVAL.
6. VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS ALL REQUIREMENTS OF THE APPLICABLE ICC ESR.
7. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS.
8. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE ANCHORS SHOWN IN THIS PRE-APPROVAL. VERIFY THAT THERE IS NO ADVERSE INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6 hef FROM THIS UNIT'S ANCHORS.
9. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2016 CBC AND THE DETAILS SHOWN IN THIS PRE-APPROVAL.

NOTES TABLE 9

1. FOR NORMALWEIGHT OR SAND-LIGHTWEIGHT CONCRETE WITH A MINIMUM FC = 3000 PSI
2. APPLIES TO THE BGR SERIES ENCLOSURES LISTED IN TABLES 4-6
3. ASTM F1554 GRADE 36 OR 105 THRU-BOLTS WITH CONNECTION TO THE DECK SOFFIT AS DETAILED ON THE DRAWINGS.



Date Signed: 1/7/2022

| | | | |
|--------------------------|---|-------------|--------------------------------|
| USED ON: -- | APPROVALS: MODELLED | DATE: | Middle Atlantic Products, Inc. |
| NEXT ASBY: -- | DRAWN | | |
| MATERIAL: SEE COMPONENTS | CIRCLED DIMENSIONS ARE CRITICAL. INSPECTION DIMENSIONS UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMAL: 2 PLC 0.03 3 PLC 0.05 FRACTIONS: 16/32 ANGLES: 30 | SCALE: 1/8" | TITLE: BGR-SERIES HCAI |
| FINISH: -- | | | PART NO. PART REV |
| | | | SIZE: 11" X 17" DWG NO. NONE |
| | | | DWG NO. DWG REV |

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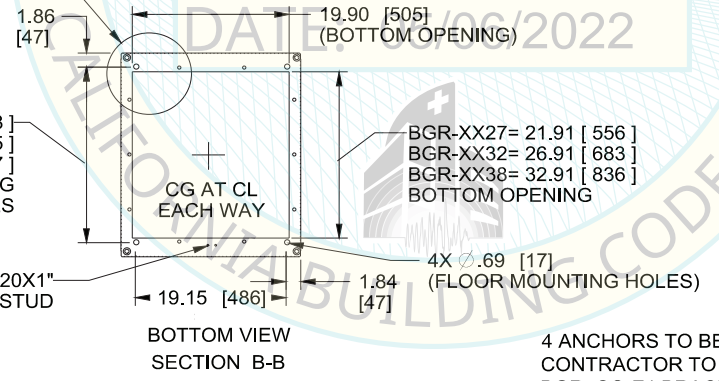
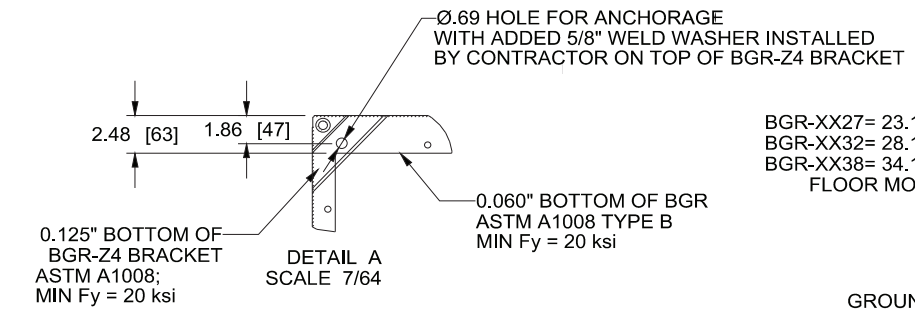
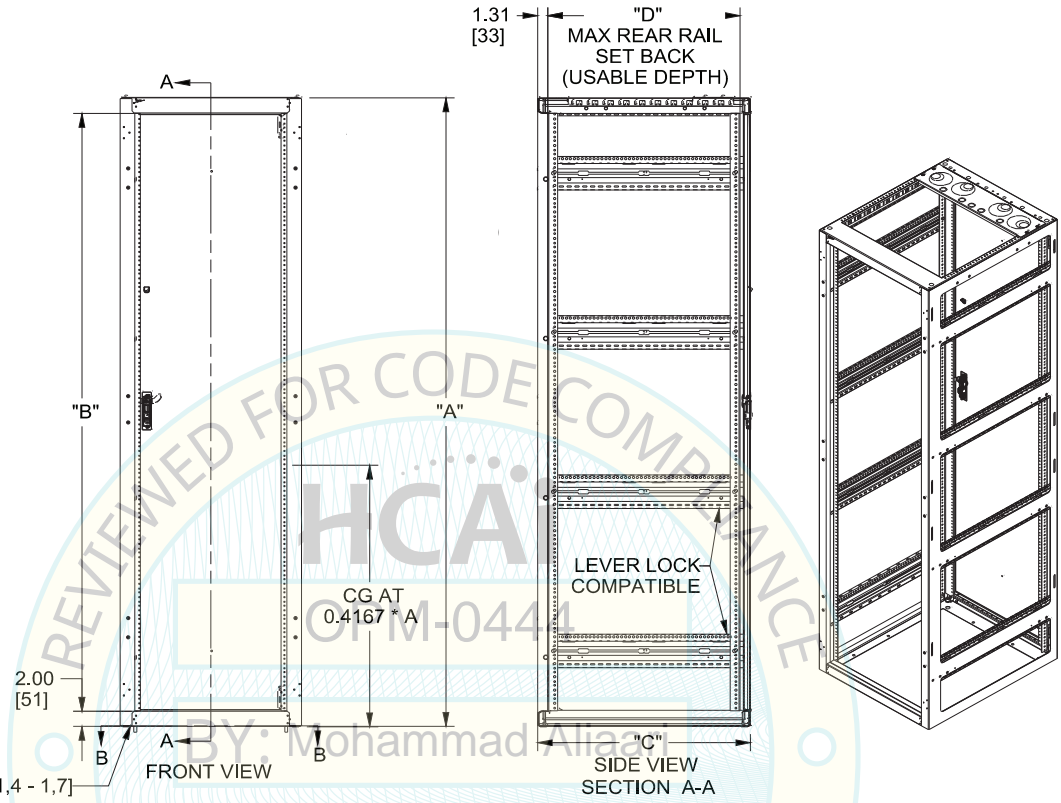
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| OPM-0444 | REVISION: | C |
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| BGR-SERIES HCAI | EFFECTIVE DATE: | TBD |
| | PAGE | 6 of 8 |

| MODEL # | RACK SPACES | "A" OVERALL HEIGHT | "B" RACKING HEIGHT | "C" DEPTH | "D" USABLE DEPTH | RACK WEIGHT (EMPTY) (LBS) |
|----------|-------------|--------------------|--------------------|-----------|------------------|---------------------------|
| BGR-1927 | 19 | 37.375[949] | 33.375[848] | 27[686] | 24.4[620] | 78 |
| BGR-2527 | 25 | 47.875[1216] | 43.875[1114] | 27[686] | 24.4[620] | 85 |
| BGR-3827 | 38 | 70.625[1794] | 66.625[1692] | 27[686] | 24.4[620] | 110 |
| BGR-4127 | 41 | 75.875[1927] | 71.875[1826] | 27[686] | 24.4[620] | 120 |
| BGR-4527 | 45 | 82.875[2105] | 78.875[2003] | 27[686] | 24.4[620] | 127 |
| BGR-2532 | 25 | 47.875[1216] | 43.875[1114] | 32[812] | 29.4[747] | 89 |
| BGR-3832 | 38 | 70.625[1794] | 66.625[1692] | 32[812] | 29.4[747] | 119 |
| BGR-4132 | 41 | 75.875[1927] | 71.875[1826] | 32[812] | 29.4[747] | 134 |
| BGR-4532 | 45 | 82.875[2105] | 78.875[2003] | 32[812] | 29.4[747] | 142 |
| BGR-4138 | 41 | 75.875[1927] | 71.875[1826] | 38[965] | 35.4[899] | 143 |
| BGR-4538 | 45 | 82.875[2105] | 78.875[2003] | 38[965] | 35.4[899] | 150 |

NOTE:
ALL DIMENSIONS ARE EXPRESSED IN THE FORM IN [mm]

SUPPORTS & ATTACHMENTS MATERIAL THICKNESS = .060 [1,5] BASE + .125 [3,2] BRACKET

FIRST RACK IS 4 INCHES FROM BASE. ALL OTHER RACK SPACES ARE 1.755 INCHES IN HEIGHT
MAX CONTENT CAPACITY FOR EA UNIT CAN BE FOUND ON TABLES 2 THRU 7 BASED ON CAPACITY OF SUPPORTS & ATTACHMENTS, & z/h



4 ANCHORS TO BE USED. SEE NOTES. CONTRACTOR TO INSTALL WITH BGR-Z4 OR BGR-ISO-Z4 BRACKETS (ONE BRACKET FIT SNUG IN EACH CORNER, PER SEISMIC KIT DIRECTIONS; EACH KIT CONTAINS 4 BRACKETS). CONTRACTOR TO ALSO INSTALL A 5/8" WELD WASHER ON TOP OF BRACKET AT EACH ANCHOR LOCATION

Middle Atlantic Products
certifies this document as an outline drawing.

Signature: *Sudharsan Yogasuntharam*
Print Name: Sudharsan Yogasuntharam
Title: Compliance & Regulatory Engineer
Date: 12/29/2021



Date Signed: 1/7/2022

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| USED ON | APPROVALS | DATE | Middle Atlantic Products, Inc. |
| --- | DRAWN | | |
| NEXT ASSY | CRITICAL DIMENSIONS ARE CRITICAL INSPECTION DIMENSIONS UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE IN INCHES TOLERANCES ARE: | | TITLE |
| MATERIAL | DECIMAL: 2 PLC .003 | | BGR-SERIES HCAI |
| SEE COMPONENTS | FRACTIONS: 16/32 | | PART NO. |
| FINISH | SCALE = 1/8" | | SIZE 11 |
| | | | DWG NO. |

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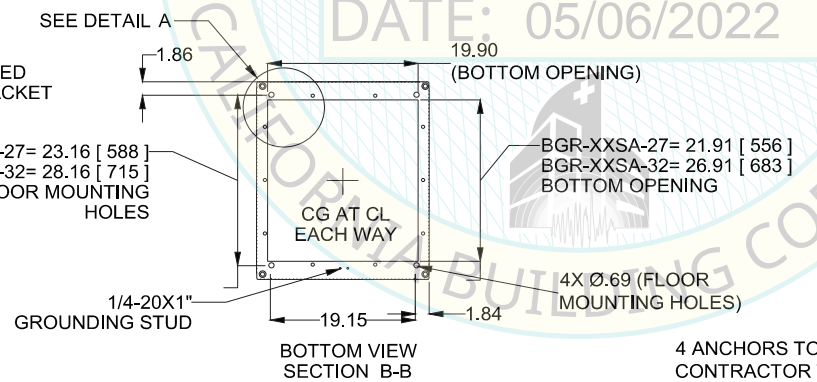
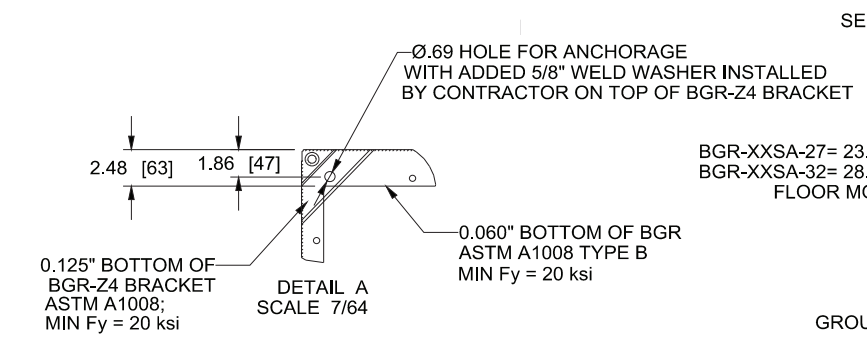
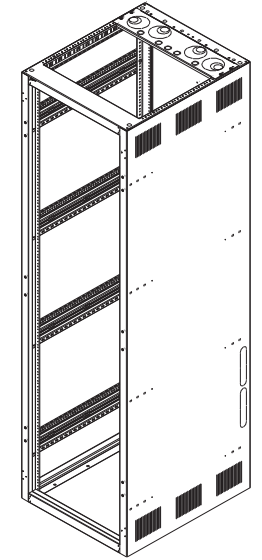
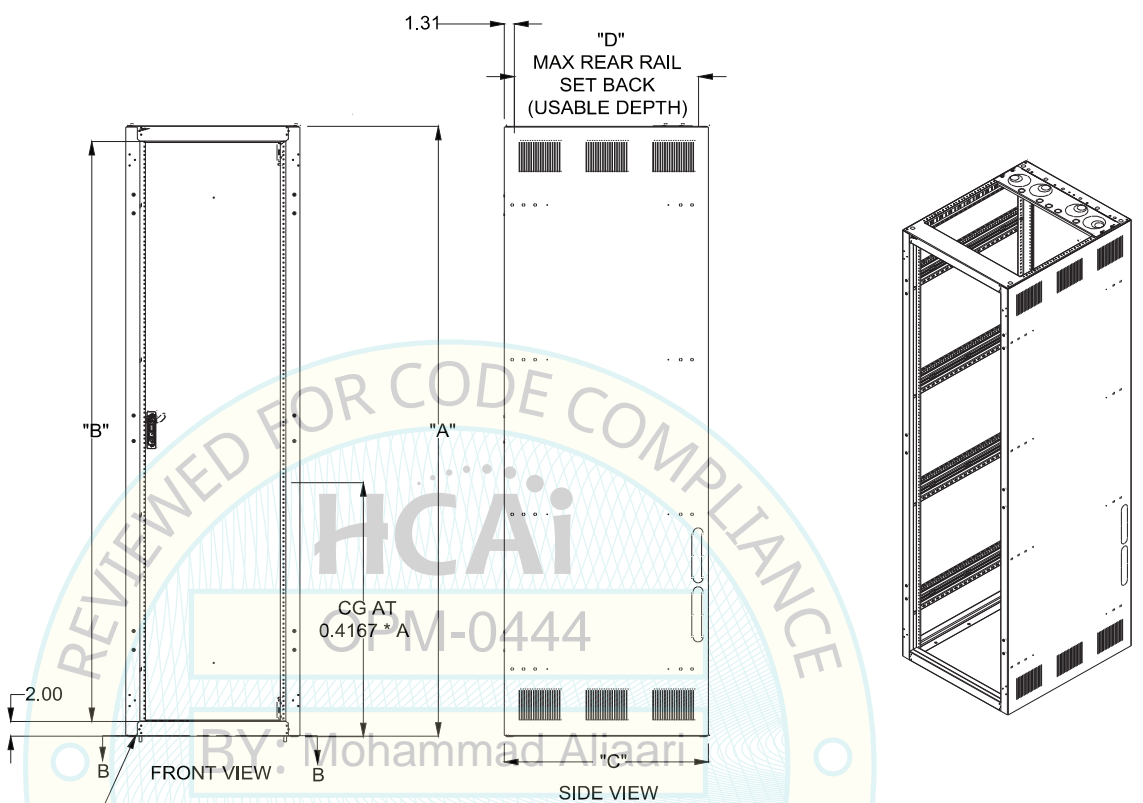
| MODEL # | RACK SPACES | "A" OVERALL HEIGHT | "B" RACKING HEIGHT | "C" DEPTH | "D" USABLE DEPTH | RACK WEIGHT (EMPTY) (LBS) |
|-------------|-------------|--------------------|--------------------|-----------|------------------|---------------------------|
| BGR-19SA-27 | 19 | 37.375[949] | 33.375[848] | 27[686] | 24.4[620] | 92 |
| BGR-25SA-27 | 25 | 47.875[1216] | 43.875[1114] | 27[686] | 24.4[620] | 112 |
| BGR-38SA-27 | 38 | 70.625[1794] | 66.625[1692] | 27[686] | 24.4[620] | 146 |
| BGR-41SA-27 | 41 | 75.875[1927] | 71.875[1826] | 27[686] | 24.4[620] | 158 |
| BGR-45SA-27 | 45 | 82.875[2105] | 78.875[2003] | 27[686] | 24.4[620] | 169 |
| BGR-25SA-32 | 25 | 47.875[1216] | 43.875[1114] | 32[812] | 29.4[747] | 118 |
| BGR-38SA-32 | 38 | 70.625[1794] | 66.625[1692] | 32[812] | 29.4[747] | 159 |
| BGR-41SA-32 | 41 | 75.875[1927] | 71.875[1826] | 32[812] | 29.4[747] | 178 |
| BGR-45SA-32 | 45 | 82.875[2105] | 78.875[2003] | 32[812] | 29.4[747] | 184 |

NOTE:
ALL DIMENSIONS ARE EXPRESSED IN THE FORM IN [mm]

SUPPORTS & ATTACHMENTS MATERIAL THICKNESS = .060 [1,5] BASE + .125 [3,2] BRACKET

FIRST RACK IS 4 INCHES FROM BASE. ALL OTHER RACK SPACES ARE 1.755 INCHES IN HEIGHT
MAX CONTENT CAPACITY FOR EA UNIT CAN BE FOUND ON TABLES 2 THRU 7 BASED ON CAPACITY OF SUPPORTS & ATTACHMENTS, & z/h

MATERIAL: CRS 16AWG 0.055 - 0.065 [1,4 - 1,7]



4 ANCHORS TO BE USED. SEE NOTES. CONTRACTOR TO INSTALL WITH BGR-Z4 OR BGR-ISO-Z4 BRACKETS (ONE BRACKET FIT SNUG IN EACH CORNER, PER SEISMIC KIT DIRECTIONS; EACH KIT CONTAINS 4 BRACKETS). CONTRACTOR TO ALSO INSTALL A 5/8" WELD WASHER ON TOP OF BRACKET AT EACH ANCHOR LOCATION

Middle Atlantic Products
certifies this document as an outline drawing.

Signature: *[Signature]*
Print Name: Sudharsan Yogasuntharam
Title: Compliance & Regulatory Engineer
Date: 12/29/2021



Date Signed: 1/7/2022

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| USED ON: -- | APPROVALS: MODELLED | DATE: | |
| NEXT ASBY: -- | DRAWN: | | |
| MATERIAL: SEE COMPONENTS | CIRCLED DIMENSIONS ARE CRITICAL. INSPECTION DIMENSIONS UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMAL: 2 PLC .020 3 PLC .010 FRACTIONS: 1/32 ANGLES: 3/4 | | TITLE: BGR-SERIES HCAI |
| FINISH: -- | SCALE: 1/8" = 1" | | PART NO.: |
| | | | REV NO.: |
| | | | DATE: |
| | | | BY: |
| | | | CHK NO.: |
| | | | DATE: |
| | | | BY: |
| | | | CHK NO.: |
| | | | DATE: |

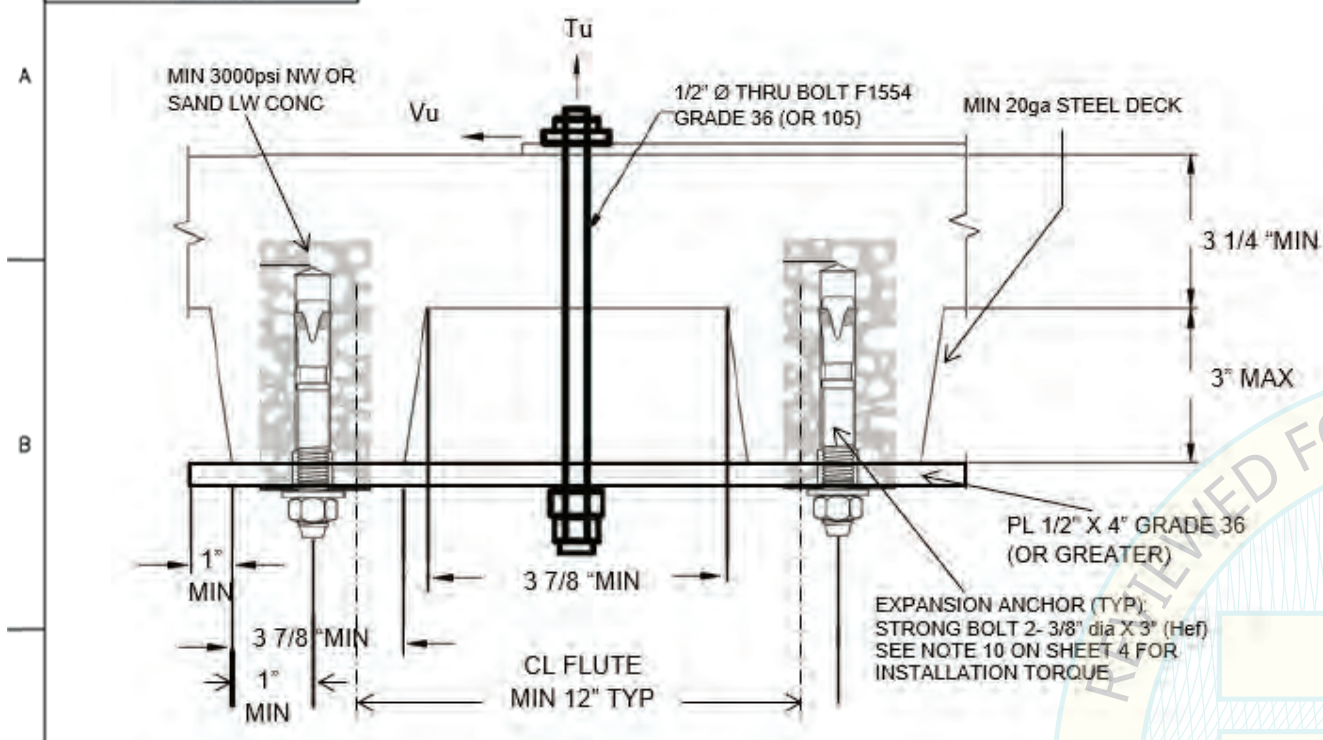
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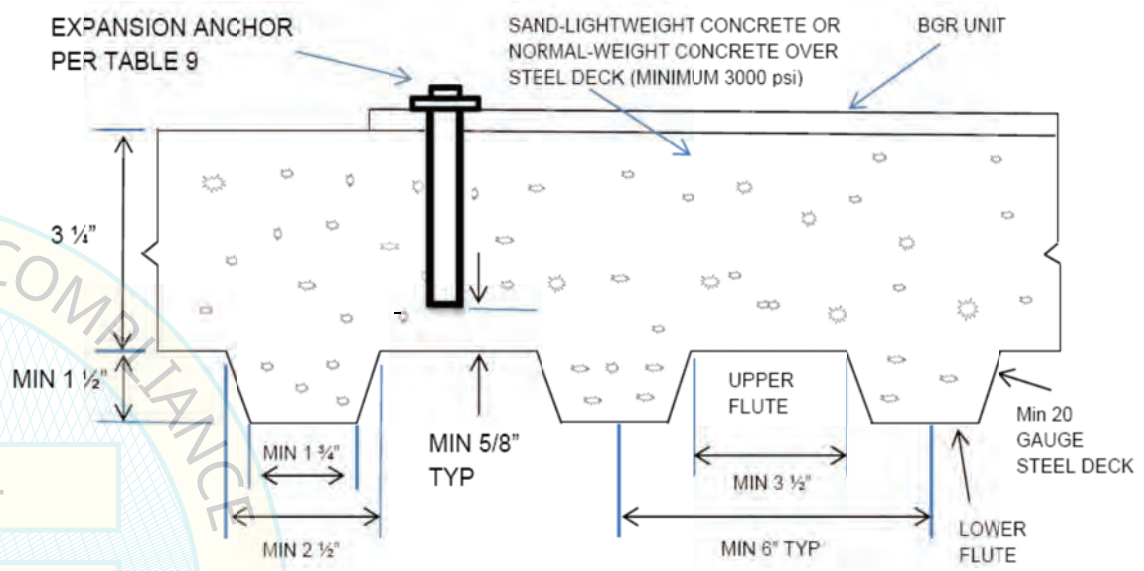
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| EFFECTIVE DATE: | TED |
| PAGE | 8 of 8 |

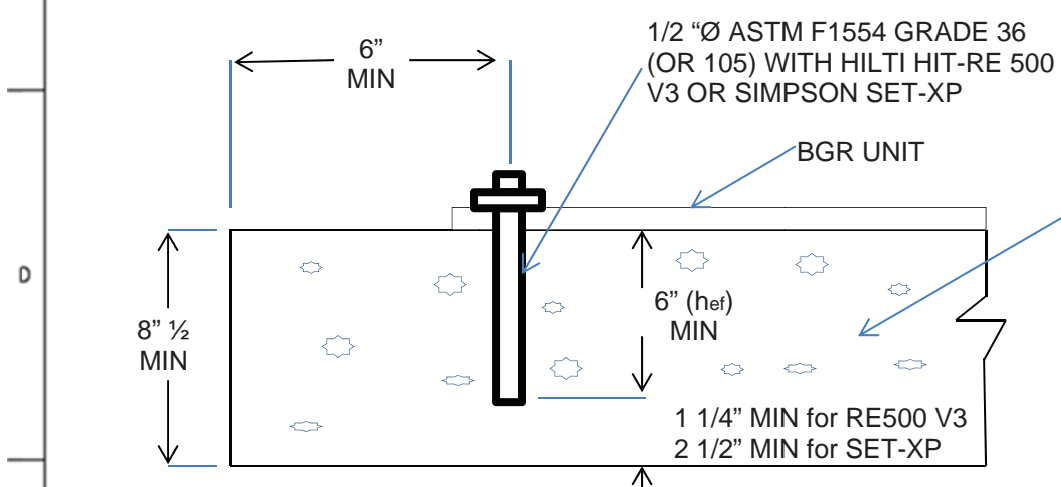
BGR-SERIES HCAI



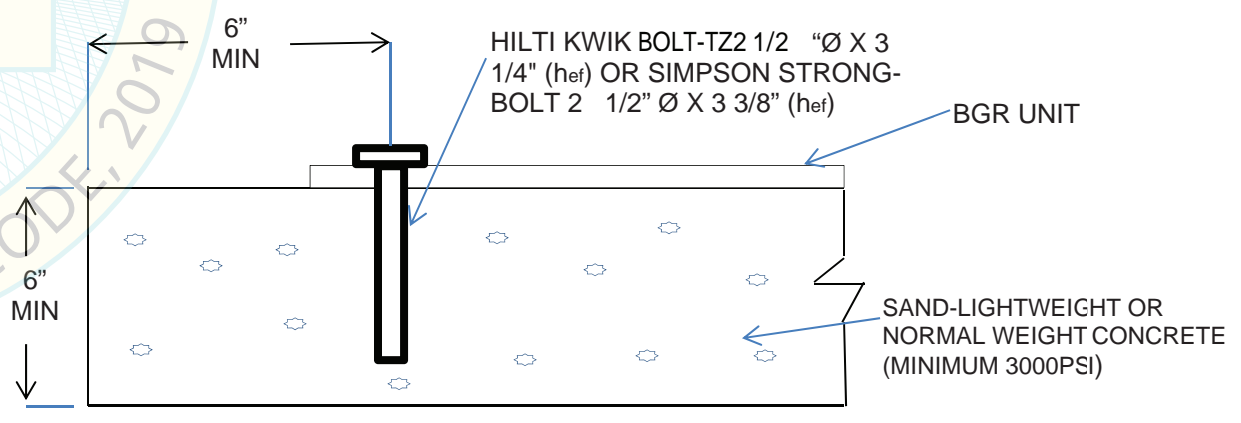
THRU-BOLT CONNECTION DETAIL



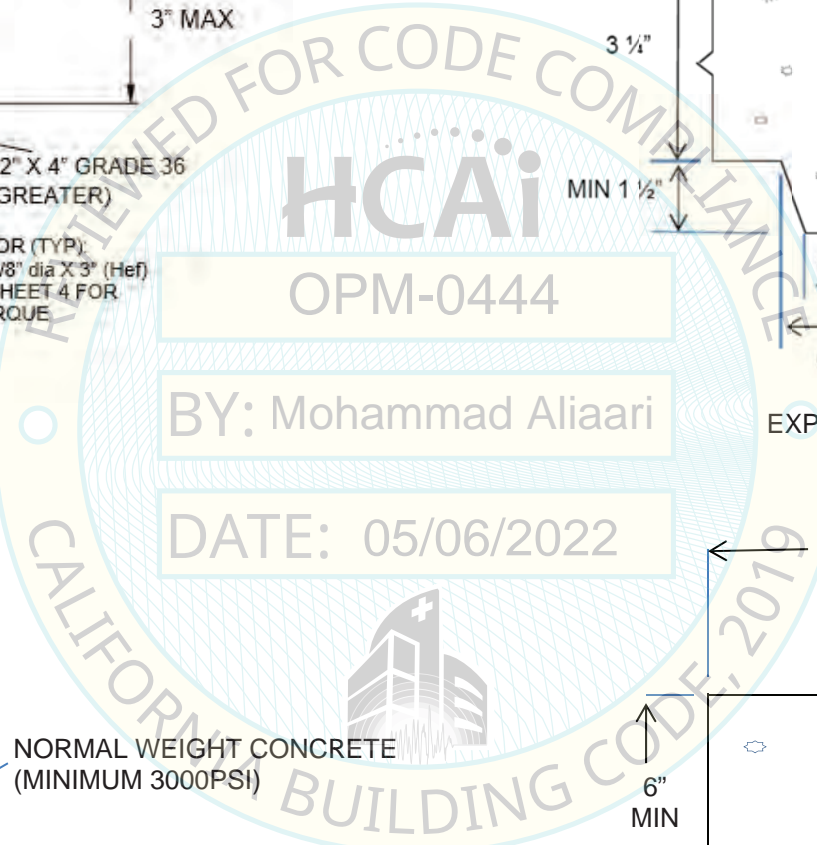
EXPANSION ANCHOR IN DECK CONNECTION DETAIL



EPOXY ANCHOR CONNECTION DETAIL



EXPANSION ANCHOR CONNECTION DETAIL



E



Date Signed: 1/7/2022

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| NEXT ASSY: -- | DRAWN: | | |
| MATERIAL: SEE COMPONENTS | CIRCLED DIMENSIONS ARE CRITICAL. INSPECTION DIMENSIONS UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMAL: 2 PLC 8.00; FRACTIONS: 3 PLC 8.00; ANGLES: 30 | | TITLE: BGR-SERIES HCAI |
| FINISH: -- | SCALE: 1/8" | | PART NO.: |
| | | | REV: 3 |
| | | | DWG NO.: |