

TABLE B-3600-1
6" POLYSTEEL® PS•3600 WAFFLE GRID
8-FOOT HIGH BASEMENT WALL

VERTICAL (Grade 40) REBAR REQUIREMENTS *

| Unbalanced Backfill Depth | Backfill Equivalent Fluid Density | | | |
|---------------------------|-----------------------------------|----------------------------|---------------------------|--------------------------|
| | 30 pcf | 40 pcf | 50 pcf | 60 pcf |
| 5 ft | #3@12"; #4@24"; #5@36"; #6@48" | #4@12"; #5@24"; #6@36"; | #4@12"; #5@12"; #6@24" | #4@12"; #5@12" #6@24" |
| 5 1/2 ft. | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@12"; #6@24" | #4@12"; #5@12"; #6@24" | #5@12"; #6@12" |
| 6 ft | #4@12"; #5@24"; #6@24" | #4@12"; #5@12"; #6@24" | #5@12"; #6@12" | #5@12"; #6@12" |
| 6 1/2 ft. | #4@12"; #5@12"; #6@24" | #5@12"; #6@12" | #5@12"; #6@12" | #6 @ 12" |
| 7 ft | #4@12"; #5@12"; #6@12" | #5@12"; #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") |
| 7 1/2 ft. | #5@12"; #6@12" | #6 @ 12" | #6 @ 12" | #5 @ 12" (d=6.3125") |
| 8 ft | #5@12"; #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") | #5 @ 12" (d=6.3125") |

*** Minimum Rebar Requirements:**

- If the basement wall is NOT supporting an above grade PolySteel wall in Seismic Design Category A, B, C, D1, and D2 areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall IS supporting an above grade PolySteel wall in Seismic Design Category A, B, and C areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall IS supporting an above grade PolySteel wall in Seismic Design Category D1 and D2 areas: Maximum spacing of vertical rebar is 12" o.c. Minimum vertical rebar is #4 @ 12" o.c. or table above if more restrictive. Vertical rebar size and spacing shall match the above grade wall reinforcement if more restrictive. Minimum horizontal rebar is #5 @ 16" o.c. (See note #2 below.)

NOTES:

- This table is based on the design criteria of ACI 318-99 "Building Code Requirements for Structural Concrete"
- The reinforcement requirements listed in this table are based on Grade 40 (ASTM A 615 or ASTM A 996) rebar and 2,500 psi concrete. Basement walls in Seismic Design Category D1 and D2 areas may use the above table for designs to resist lateral soil pressure but must specify Grade 60 (ASTM A 706 for low-alloy steel) rebar and 3,000 psi for construction.
- This table assumes the vertical rebar is placed in the center of the 9 1/4" thick PolySteel wall (d=4.625"), **unless otherwise noted with an offset dimension ("d") measured from the outside edge of form (backfill side of wall).**
- The basement floor must be poured and the first floor in place before backfilling.
- The floor or roof system supporting the top of the basement wall and the connection to the top of the basement wall, must be specifically designed to provide the necessary strength to resist the horizontal reaction or force developed at the top of the basement wall by the lateral loads exerted on the wall by the backfill.
- Concrete must cure a minimum of 7 days before backfilling.
- Backfill should be well drained.
- Refer to the PolySteel® Installation Manual for proper basement drainage and waterproofing systems.

TABLE B-3600-2
6" POLYSTEEL® PS•3600 WAFFLE GRID
9-FOOT HIGH BASEMENT WALL

VERTICAL (Grade 40) REBAR REQUIREMENTS *

| Unbalanced Backfill Depth | Backfill Equivalent Fluid Density | | | |
|---------------------------|-----------------------------------|----------------------------|---------------------------|--------------------------|
| | 30 pcf | 40 pcf | 50 pcf | 60 pcf |
| 5 ft | #3@12"; #4@24"; #5@36"; #6@48" | #4@12"; #5@24"; #6@24"; | #4@12"; #5@12"; #6@24" | #4@12"; #5@12" #6@12" |
| 5 1/2 ft. | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@12"; #6@24" | #4@12"; #5@12"; #6@12" | #5@12"; #6@12" |
| 6 ft | #4@12"; #5@12"; #6@24" | #4@12"; #5@12"; #6@24" | #5@12"; #6@12" | #6@12" |
| 6 1/2 ft. | #4@12"; #5@12"; #6@24" | #5@12"; #6@12" | #6@12" | #6 @ 12" |
| 7 ft | #5@12"; #6@12"; | #5@12"; #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") |
| 7 1/2 ft. | #5@12"; #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") | #5 @ 12" (d=6.3125") |
| 8 ft | #5@12"; #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") |
| 8 1/2 ft | #6@12" | #5 @ 12" (d=6.3125") | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") |
| 9 ft | #6@12" | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") | #6 @ 12" (d=6.25") |

*** Minimum Rebar Requirements:**

- If the basement wall is **NOT** supporting an above grade PolySteel wall in Seismic Design Category A, B, C, D1, and D2 areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall **IS** supporting an above grade PolySteel wall in Seismic Design Category A, B, and C areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall **IS** supporting an above grade PolySteel wall in Seismic Design Category D1 and D2 areas: Maximum spacing of vertical rebar is 12" o.c. Minimum vertical rebar is #4 @ 12" o.c. or table above if more restrictive. Vertical rebar size and spacing shall match the above grade wall reinforcement if more restrictive. Minimum horizontal rebar is #5 @ 16" o.c. (See note #2 below.)

NOTES:

- This table is based on the design criteria of ACI 318-99 "Building Code Requirements for Structural Concrete"
- The reinforcement requirements listed in this table are based on Grade 40 (ASTM A 615 or ASTM A 996) rebar and 2,500 psi concrete. Basement walls in Seismic Design Category D1 and D2 areas may use the above table for designs to resist lateral soil pressure but must specify Grade 60 (ASTM A 706 for low-alloy steel) rebar and 3,000 psi for construction.
- This table assumes the vertical rebar is placed in the center of the 9 1/4" thick PolySteel wall (d=4.625"), **unless otherwise noted with an offset dimension ("d") measured from the outside edge of form (backfill side of wall).**
- The basement floor must be poured and the first floor in place before backfilling.
- The floor or roof system supporting the top of the basement wall and the connection to the top of the basement wall, must be specifically designed to provide the necessary strength to resist the horizontal reaction or force developed at the top of the basement wall by the lateral loads exerted on the wall by the backfill.
- Concrete must cure a minimum of 7 days before backfilling.
- Backfill should be well drained.
- Refer to the PolySteel® Installation Manual for proper basement drainage and waterproofing systems.

TABLE B-3600-3
6" POLYSTEEL® PS•3600 WAFFLE GRID
10-FOOT HIGH BASEMENT WALL

VERTICAL (Grade 40) REBAR REQUIREMENTS *

| Unbalanced Backfill Depth | Backfill Equivalent Fluid Density | | | |
|---------------------------|-----------------------------------|----------------------------|---------------------------|--------------------------|
| | 30 pcf | 40 pcf | 50 pcf | 60 pcf |
| 5 ft | #3@12"; #4@24"; #5@24"; #6@36" | #4@12"; #5@24"; #6@24"; | #4@12"; #5@12"; #6@24" | #4@12"; #5@12" #6@12" |
| 5 1/2 ft. | #4@12"; #5@24"; #6@24" | #4@12"; #5@12"; #6@24" | #5@12"; #6@12"; | #5@12"; #6@12" |
| 6 ft | #4@12"; #5@12"; #6@24" | #5@12"; #6@12"; | #5@12"; #6@12" | #6@12" |
| 6 1/2 ft. | #4@12"; #5@12"; #6@12" | #5@12"; #6@12" | #6@12" | #6 @ 12" |
| 7 ft | #5@12"; #6@12"; | #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") |
| 7 1/2 ft. | #5@12"; #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") |
| 8 ft | #6@12" | #5 @ 12" (d=6.3125") | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") |
| 8 1/2 ft | #6@12" | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") | #6 @ 12" (d=6.25") |
| 9 ft | #5 @ 12" (d=6.3125") | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") | "Design Required" |
| 9 1/2 ft | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") | "Design Required" | "Design Required" |
| 10 ft | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") | "Design Required" | "Design Required" |

*** Minimum Rebar Requirements:**

- If the basement wall is **NOT** supporting an above grade PolySteel wall in Seismic Design Category A, B, C, D1, and D2 areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall **IS** supporting an above grade PolySteel wall in Seismic Design Category A, B, and C areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall **IS** supporting an above grade PolySteel wall in Seismic Design Category D1 and D2 areas: Maximum spacing of vertical rebar is 12" o.c. Minimum vertical rebar is #4 @ 12" o.c. or table above if more restrictive. Vertical rebar size and spacing shall match the above grade wall reinforcement if more restrictive. Minimum horizontal rebar is #5 @ 16" o.c. (See note #2 below.)

NOTES:

1. This table is based on the design criteria of ACI 318-99 "Building Code Requirements for Structural Concrete"
2. The reinforcement requirements listed in this table are based on Grade 40 (ASTM A 615 or ASTM A 996) rebar and 2,500 psi concrete. Basement walls in Seismic Design Category D1 and D2 areas may use the above table for designs to resist lateral soil pressure but must specify Grade 60 (ASTM A 706 for low-alloy steel) rebar and 3,000 psi for construction.
3. This table assumes the vertical rebar is placed in the center of the 9 1/4" thick PolySteel wall (d=4.625"), **unless otherwise noted with an offset dimension ("d") measured from the outside edge of form (backfill side of wall).**
4. The basement floor must be poured and the first floor in place before backfilling.
5. The floor or roof system supporting the top of the basement wall and the connection to the top of the basement wall, must be specifically designed to provide the necessary strength to resist the horizontal reaction or force developed at the top of the basement wall by the lateral loads exerted on the wall by the backfill.
6. Concrete must cure a minimum of 7 days before backfilling.
7. Backfill should be well drained.
8. Refer to the PolySteel® Installation Manual for proper basement drainage and waterproofing systems.
9. "Design Required" refers to a design review by the project's structural engineer using higher strength rebar and/or higher compressive strength concrete than assumed for the development of this design table.

TABLE B-3600-4
6" POLYSTEEL® PS•3600 WAFFLE GRID
8-FOOT HIGH BASEMENT WALL

VERTICAL (Grade 60) REBAR REQUIREMENTS *

| Unbalanced Backfill Depth | Backfill Equivalent Fluid Density | | | |
|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------|
| | 30 pcf | 40 pcf | 50 pcf | 60 pcf |
| 5 ft | #3@12"; #4@36"; #5@48" | #3@12"; #4@24"; #5@24"; #6@48" | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@24" #6@24" |
| 5 1/2 ft. | #3@12"; #4@24"; #5@36"; #6@48" | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@24"; #6@24" | #4@12"; #5@12" #6@24" |
| 6 ft | #3@12"; #4@24"; #5@24"; #6@36" | #4@12"; #5@24"; #6@24" | #4@12"; #5@12" #6@24" | #4@12"; #5@12" #6@12" |
| 6 1/2 ft. | #3@12"; #4@12"; #5@24"; #6@24" | #4@12"; #5@12" #6@24" | #4@12"; #5@12" #6@12" | #5@12"; #6 @ 12" |
| 7 ft | #4@12"; #5@24"; #6@24" | #4@12"; #5@12"; #6@24" | #5@12"; #6 @ 12" | #5@12"; #6 @ 12" |
| 7 1/2 ft. | #4@12"; #5@12" #6@24" | #5@12"; #6 @ 12" | #5@12"; #6 @ 12" | #6 @ 12" |
| 8 ft | #4@12"; #5@12" #6@24" | #6 @ 12" | #6 @ 12" | #6 @ 12" |

*** Minimum Rebar Requirements:**

- If the basement wall is **NOT** supporting an above grade PolySteel wall in Seismic Design Category A, B, C, D1, and D2 areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall **IS** supporting an above grade PolySteel wall in Seismic Design Category A, B, and C areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall **IS** supporting an above grade PolySteel wall in Seismic Design Category D1 and D2 areas: Maximum spacing of vertical rebar is 12" o.c. Minimum vertical rebar is #4 @ 12" o.c. or table above if more restrictive. Vertical rebar size and spacing shall match the above grade wall reinforcement if more restrictive. Minimum horizontal rebar is #5 @ 16" o.c. (See note #2 below.)

NOTES:

1. This table is based on the design criteria of ACI 318-99 "Building Code Requirements for Structural Concrete"
2. The reinforcement requirements listed in this table are based on Grade 60 (ASTM A 615 or ASTM A 996) rebar and 2,500 psi concrete. Basement walls in Seismic Design Category D1 and D2 areas may use the above table for designs to resist lateral soil pressure but must specify Grade 60 (ASTM A 706 for low-alloy steel) rebar and 3,000 psi for construction.
3. This table assumes the vertical rebar is placed in the center of the 9 1/4" thick PolySteel wall (d=4.625"),
4. The basement floor must be poured and the first floor in place before backfilling.
5. The floor or roof system supporting the top of the basement wall and the connection to the top of the basement wall, must be specifically designed to provide the necessary strength to resist the horizontal reaction or force developed at the top of the basement wall by the lateral loads exerted on the wall by the backfill.
6. Concrete must cure a minimum of 7 days before backfilling.
7. Backfill should be well drained.
8. Refer to the PolySteel® Installation Manual for proper basement drainage and waterproofing systems.

TABLE B-3600-5
6" POLYSTEEL® PS•3600 WAFFLE GRID
9-FOOT HIGH BASEMENT WALL

VERTICAL (Grade 60) REBAR REQUIREMENTS *

| Unbalanced Backfill Depth | Backfill Equivalent Fluid Density | | | |
|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------|
| | 30 pcf | 40 pcf | 50 pcf | 60 pcf |
| 5 ft | #3@12"; #4@24"; #5@36"; #6@48" | #3@12"; #4@24"; #5@36"; #6@36" | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@24" #6@24" |
| 5 1/2 ft. | #3@12"; #4@24"; #5@36"; #6@48" | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@12"; #6@24" | #4@12"; #5@12" #6@24" |
| 6 ft | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@12"; #6@24" | #4@12"; #5@12" #6@24" | #5@12"; #6@12" |
| 6 1/2 ft. | #4@12"; #5@24"; #6@24" | #4@12"; #5@12" #6@24" | #5@12"; #6@12" | #5@12"; #6 @ 12" |
| 7 ft | #4@12"; #5@12"; #6@24" | #5@12"; #6@12" | #5@12"; #6 @ 12" | #6 @ 12" |
| 7 1/2 ft. | #4@12"; #5@12" #6@24" | #5@12"; #6 @ 12" | #6 @ 12" | #6 @ 12" |
| 8 ft | #5@12"; #6@12" | #5@12"; #6@12" | #6 @ 12" | #6 @ 12" (d=6.25") |
| 8 1/2 ft | #5@12"; #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") |
| 9 ft | #5@12"; #6@12" | #6 @ 12" | #6 @ 12" (d=6.25") | #6 @ 12" (d=6.25") |

*** Minimum Rebar Requirements:**

If the basement wall is NOT supporting an above grade PolySteel wall in Seismic Design Category

A, B, C, D1, and D2 areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.

If the basement wall IS supporting an above grade PolySteel wall in Seismic Design Category A, B, and C areas:

Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.

If the basement wall IS supporting an above grade PolySteel wall in Seismic Design Category D1 and D2 areas:

Maximum spacing of vertical rebar is 12" o.c. Minimum vertical rebar is #4 @ 12" o.c. or table above if more restrictive.

Vertical rebar size and spacing shall match the above grade wall reinforcement if more restrictive.

Minimum horizontal rebar is #5 @ 16" o.c. (See note #2 below.)

NOTES:

- This table is based on the design criteria of ACI 318-99 "Building Code Requirements for Structural Concrete"
- The reinforcement requirements listed in this table are based on Grade 60 (ASTM A 615 or ASTM A 996) rebar and 2,500 psi concrete. Basement walls in Seismic Design Category D1 and D2 areas may use the above table for designs to resist lateral soil pressure but must specify Grade 60 (ASTM A 706 for low-alloy steel) rebar and 3,000 psi for construction.
- This table assumes the vertical rebar is placed in the center of the 9 1/4" thick PolySteel wall (d=4.625"), **unless otherwise noted with an offset dimension ("d") measured from the outside edge of form (backfill side of wall).**
- The basement floor must be poured and the first floor in place before backfilling.
- The floor or roof system supporting the top of the basement wall and the connection to the top of the basement wall, must be specifically designed to provide the necessary strength to resist the horizontal reaction or force developed at the top of the basement wall by the lateral loads exerted on the wall by the backfill.
- Concrete must cure a minimum of 7 days before backfilling.
- Backfill should be well drained.
- Refer to the PolySteel® Installation Manual for proper basement drainage and waterproofing systems.

TABLE B-3600-6
6" POLYSTEEL® PS•3600 WAFFLE GRID
10-FOOT HIGH BASEMENT WALL

VERTICAL (Grade 60) REBAR REQUIREMENTS *

| Unbalanced Backfill Depth | Backfill Equivalent Fluid Density | | | |
|---------------------------|-----------------------------------|--------------------------------|--------------------------------|------------------------|
| | 30 pcf | 40 pcf | 50 pcf | 60 pcf |
| 5 ft | #3@12"; #4@24"; #5@36"; #6@48" | #3@12"; #4@24"; #5@24"; #6@36" | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@12"; #6@24" |
| 5 1/2 ft. | #3@12"; #4@24"; #5@36"; #6@48" | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@12"; #6@24" | #4@12"; #5@12"; #6@24" |
| 6 ft | #3@12"; #4@12"; #5@24"; #6@36" | #4@12"; #5@12"; #6@24" | #4@12"; #5@12"; #6@24" | #5@12"; #6@12" |
| 6 1/2 ft. | #4@12"; #5@24"; #6@24" | #4@12"; #5@12"; #6@12" | #5@12"; #6@12" | #5@12"; #6 @ 12" |
| 7 ft | #4@12"; #5@12"; #6@24" | #5@12"; #6@12" | #5@12"; #6 @ 12" | #6 @ 12" |
| 7 1/2 ft. | #4@12"; #5@12"; #6@12" | #5@12"; #6 @ 12" | #6 @ 12" | #5 @ 12" (d=6.3125") |
| 8 ft | #5@12"; #6@12" | #6 @ 12" | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") |
| 8 1/2 ft | #5@12"; #6@12" | #6 @ 12" | #6 @ 12" (d=6.25") | #6 @ 12" (d=6.25") |
| 9 ft | #6@12" | #5 @ 12" (d=6.3125") | #6 @ 12" (d=6.25") | "Design Required" |
| 9 1/2 ft | #6@12" | #6 @ 12" (d=6.25") | "Design Required" | "Design Required" |
| 10 ft | #6@12" | #6 @ 12" (d=6.25") | "Design Required" | "Design Required" |

*** Minimum Rebar Requirements:**

- If the basement wall is **NOT** supporting an above grade PolySteel wall in Seismic Design Category A, B, C, D1, and D2 areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall **IS** supporting an above grade PolySteel wall in Seismic Design Category A, B, and C areas: Vertical rebar size and spacing per table above. Minimum horizontal rebar is #4 @ 48" o.c.
- If the basement wall **IS** supporting an above grade PolySteel wall in Seismic Design Category D1 and D2 areas: Maximum spacing of vertical rebar is 12" o.c. Minimum vertical rebar is #4 @ 12" o.c. or table above if more restrictive. Vertical rebar size and spacing shall match the above grade wall reinforcement if more restrictive. Minimum horizontal rebar is #5 @ 16" o.c. (See note #2 below.)

NOTES:

1. This table is based on the design criteria of ACI 318-99 "Building Code Requirements for Structural Concrete"
2. The reinforcement requirements listed in this table are based on Grade 60 (ASTM A 615 or ASTM A 996) rebar and 2,500 psi concrete. Basement walls in Seismic Design Category D1 and D2 areas may use the above table for designs to resist lateral soil pressure but must specify Grade 60 (ASTM A 706 for low-alloy steel) rebar and 3,000 psi for construction.
3. This table assumes the vertical rebar is placed in the center of the 9 1/4" thick PolySteel wall (d=4.625"), **unless otherwise noted with an offset dimension ("d") measured from the outside edge of form (backfill side of wall).**
4. The basement floor must be poured and the first floor in place before backfilling.
5. The floor or roof system supporting the top of the basement wall and the connection to the top of the basement wall, must be specifically designed to provide the necessary strength to resist the horizontal reaction or force developed at the top of the basement wall by the lateral loads exerted on the wall by the backfill.
6. Concrete must cure a minimum of 7 days before backfilling.
7. Backfill should be well drained.
8. Refer to the PolySteel® Installation Manual for proper basement drainage and waterproofing systems.
9. "Design Required" refers to a design review by the project's structural engineer using higher compressive strength concrete then assumed for the development of this design table.