



**USG DRYWALL
SUSPENSION
STUCCO/PLASTER/
EIFS SYSTEM**

SYSTEM GUIDE

USG DRYWALL SUSPENSION STUCCO/PLASTER/EIFS SYSTEM SYSTEM GUIDE

USG Drywall Suspension System is a desirable framing option for all exterior and interior stucco, plaster, or EIFS applications. Featuring the USG-patented, Quick-Release™ Cross Tee Clip, the system offers a faster install to alternative framing methods. And installed with 12-gauge hanger wire, the USG Drywall Suspension Stucco/Plaster/EIFS System provides less difficulty suspending the system compared to competitive systems.

| | |
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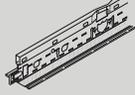
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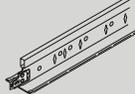
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SYSTEM COMPONENTS

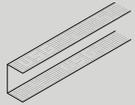
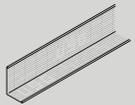
STRAIGHT MAIN TEES



CROSS TEES



MOLDINGS



STRAIGHT MAIN TEES

STRAIGHT CROSS TEE

| | ASTM Class | Length | Route Spacing | Height | Item No. | Class | Rated Load 4' Hanger Spacing |
|---|------------|--------|--|--------|-----------------------------------|---------|---------------------------------|
| DGLW | Heavy Duty | 12' | 54 routes total along Main Tee, 2-1/4" from End Splice | 1.617" | DGLW26 DGLW26E | | 16.0 lbs./LF |
| DGWSP | Heavy Duty | 135" | 13-1/2" o.c. along Main Tee, 6-3/4" from End Splice | 1.617" | DGWSP135E | Class A | 16.0 lbs./LF |
| DGLW | — | 2' | | 1-1/2" | DGLW224 DGLW224E | | — |
| DGW | — | 3' | | 1-1/2" | DGW324E | Class A | — |
| DGWM | — | 12' | | 1-1/2" | DGWM-24 DGWM-24E | — | — |
| DGCM | — | 12' | | 1-5/8" | DGCM-27E | — | — |
| DGLW26 DGLW26E | | | | | | | |
| DGWSP135E | | | | | | | |
| DGLW224 DGLW224E DGW324E | | | | | | | |

PERFORMANCE AND STANDARDS

KNURLED-FACE COMPONENTS

MAIN TEES

MAIN-TEE SPLICES

CROSS TEES

GALVANIZED STEEL

12-GAUGE WIRE

EVALUATION AND COMPLIANCE

WIND TESTING FOR EXTERIOR APPLICATIONS

| Performance | Compliance Standards |
|--|---|
| Easier screw penetration on all components. | <ul style="list-style-type: none"> • ASTM C635 |
| Heavy-duty system for all flat ceiling applications increase flexibility; available in 1-1/2" for flat ceilings. | <ul style="list-style-type: none"> • ASTM C636 • ASTM C645 • ASTM A653 |
| Integral reversible end detail for flat ceilings with fast, locked-in connections. | <ul style="list-style-type: none"> • ASTM C754 • ASTM C840 |
| Quick-Release™ clip for faster installation; eliminates wire tying; removes without tools; speeds rework. | <ul style="list-style-type: none"> • ASTM C841 • ASTM C842 • ASTM C843 |
| G40 available for most environments, G90 for more severe conditions. | <ul style="list-style-type: none"> • ASTM C844 • ASTM E580 |
| Easier to work with than the 9-gauge wire required with traditional framing systems. | <ul style="list-style-type: none"> • ASTM C926 • ASTM C1063 |
| USG developed an exclusive Drywall Suspension ICC ES Evaluation Report to assist with material, installation, and inspection compliance - ICC ESR-4358. | <ul style="list-style-type: none"> • ICC ESR-4358 • NOA 20-1203.15 |
| USG has completed wind load testing for exterior ceiling applications with USG 1/2" Securock® Brand Glass Mat Sheathing, 1/2" Securock® Brand Ultralight Glass Mat Sheathing or 1/2" Secrock® ExoAir® 430 Panels per Miami-Dade county under NOA 20-1203.15. | |

MEMBRANE LOAD VALUE TABLE

Maximum Ceiling Membrane Load Values

Deflection Criteria-L/240

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|------|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|
| Hanger Wire Spacing, in-OC | 24 | | | | | | | | 36 | | | | | | | | 48 | | | | | | | |
| Hanger Wire Load, lbs. | 258* | | | | | | | | 171* | | | | | | | | 96 | | | | | | | |
| Main Tee Spacing, in-OC | 24 | 36 | 48 | 72 | 24 | 36 | 48 | 72 | 24 | 36 | 48 | 72 | 24 | 36 | 48 | 72 | | | | | | | | |
| Cross Tee Spacing, in-OC | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | | | | | | | | |

Membrane Load, lbs-ft²

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|------|------|------|------|------|-----|-----|-----|------|------|------|------|------|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|
| DGLW26 Main Tee - 1-1/2" face | 64.5 | 53.0 | 43.0 | 30.0 | 14.1 | 9.4 | 5.0 | 3.3 | 28.5 | 28.5 | 19.0 | 19.0 | 14.2 | 9.4 | 5.0 | 3.3 | 12.0 | 12.0 | 8.0 | 8.0 | 6.0 | 6.0 | 4.0 | 4.0 |
|-------------------------------|------|------|------|------|------|-----|-----|-----|------|------|------|------|------|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|

Deflection Criteria-L/360

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|------|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|
| Hanger Wire Spacing, in-OC | 24 | | | | | | | | 36 | | | | | | | | 48 | | | | | | | |
| Hanger Wire Load, lbs. | 172* | | | | | | | | 114* | | | | | | | | 64 | | | | | | | |
| Main Tee Spacing, in-OC | 24 | 36 | 48 | 72 | 24 | 36 | 48 | 72 | 24 | 36 | 48 | 72 | 24 | 36 | 48 | 72 | | | | | | | | |
| Cross Tee Spacing | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | 16 | 24 | | | | | | | | |

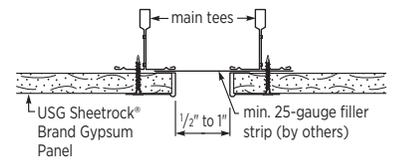
Membrane Load, lbs-ft²

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|------|------|------|------|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| DGLW26 Main Tee - 1-1/2" face | 43.0 | 35.0 | 28.7 | 20.0 | 9.4 | 6.2 | 3.3 | 2.2 | 19.0 | 19.0 | 12.7 | 12.7 | 9.4 | 6.2 | 3.3 | 2.2 | 8.0 | 8.0 | 5.3 | 5.3 | 4.0 | 4.0 | 2.7 | 2.7 |
|-------------------------------|------|------|------|------|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

*Max allowable individual wire load is 100 lbs. Where wire load exceeds this, heavier gauge hanger wire or pencil rods must be used to support the system.

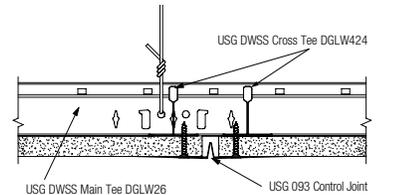
EXPANSION JOINTS

At building movement and expansion joints, provide a separation in the suspension system and install back-to-back main tees to allow for building movement, expansion and contraction in large ceiling areas.



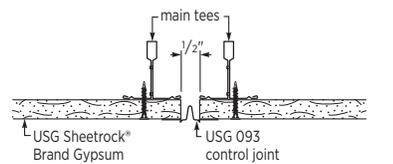
CONTROL JOINTS

Control joints are used to control stress caused by expansion and contraction across the control joint in large ceiling expanses in both drywall and veneer plaster systems. Use control joint 093, which provides a 3/32" ground for drywall or veneer plaster for ceiling areas that exceed 50' (2500 sq. ft.) with perimeter relief and 30' (900 sq. ft.) without perimeter relief. For fire-rated ceilings, control joints shall not occur within 12" of the fire-expansion notch. Do not separate suspension: Use continuous single main tees.

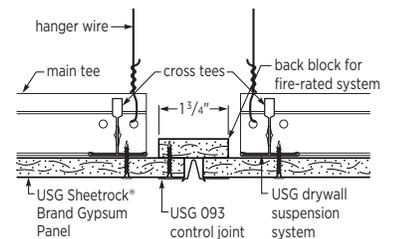


At Control Joint Locations:

- Leave 1/2" continuous opening between gypsum board for insertion of surface mounted joint
- Interrupt ceiling framing with a 1/2" gap wherever there is a control joint in the structure
- Separate supports for each control joint flange
- Provide an adequate seal or safing insulation behind control joint where sound and/or fire ratings are prime considerations



The location of control joints is the responsibility of the design professional. These suggestions should be integrated with project conditions when determining specific locations for control joints.



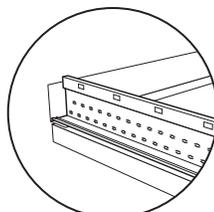
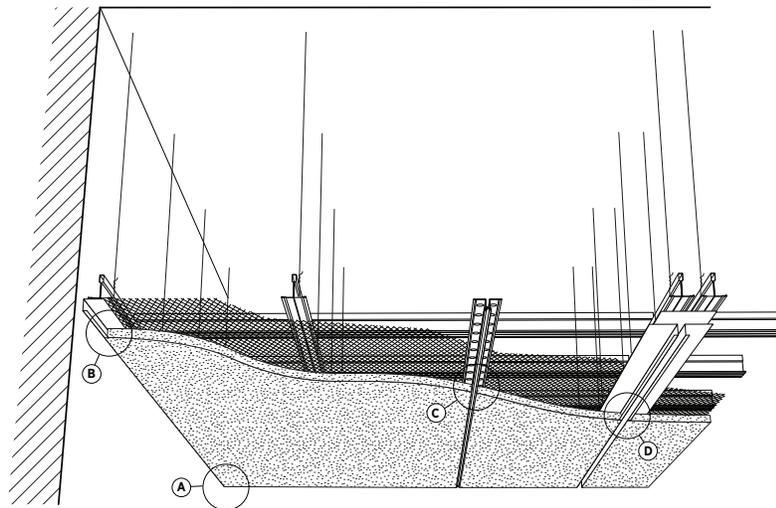
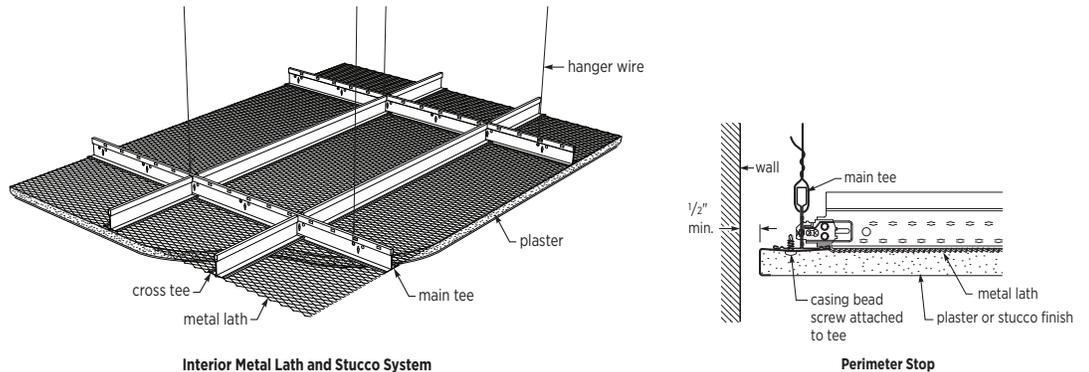
Notes: Location of control and expansion joints is the responsibility of the design professional. Gypsum panel surfaces should be isolated with control joints, caulk or other means where:

1. Ceiling or soffit abuts a structural element, column, partition or other vertical penetration.
2. Construction changes within a plane of the ceiling.
3. Ceiling dimensions exceed 50' in either direction (2500 sq. ft.) with perimeter relief or 30' (900 sq. ft.) without relief.
4. Soffit exceeds 30' in either direction.
5. Wings of "L"- "U"- and "T"-shaped ceiling areas are joined.

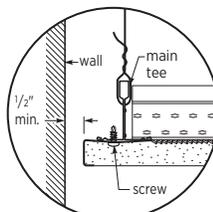
INTERIOR INSTALLATION INSTRUCTIONS

INSTALLATION

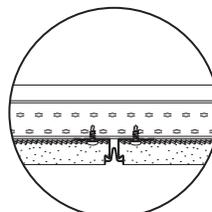
1. Suspension System and Hanger Wire
 - a. Main Tees - Laid out at 36" or 24" OC based on Membrane Load Value Table
 - b. Cross Tees - Laid out 16" or 24" OC based on Membrane Load Value Table
 - c. 12 Gauge Hanger Wire - Laid out no greater than 36" OC or otherwise dictated on Membrane Load Value Table
2. (Optional) Panel or Plywood - "Hard Lid"
 - a. Optional Gypsum or Wood membrane to be fastened into Drywall Suspension Framing Members
3. Metal Lath
 - a. 3/8", 3.4 lb Galvanized Self Furring Ribbed Sheet Lath 27" x 96"
4. Perimeter
 - a. Isolate perimeter with 1/2" min. gap but not to exceed 3/4"
 - b. Install casing bead installed at perimeter
5. Stucco/Plaster/EIFs Application
 - a. Compound, mixture, thickness to be project specified



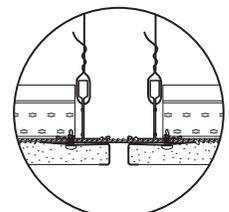
DETAIL A
Corner Isolation
from Wall



DETAIL B
Assembly Isolation
from Wall



DETAIL C
Control Joint

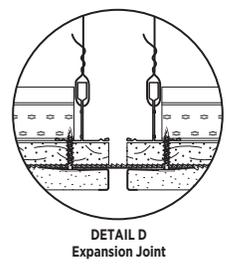
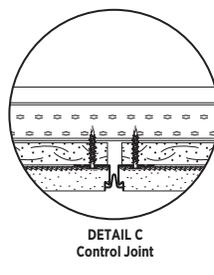
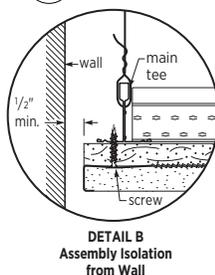
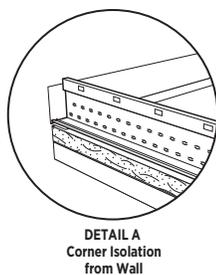
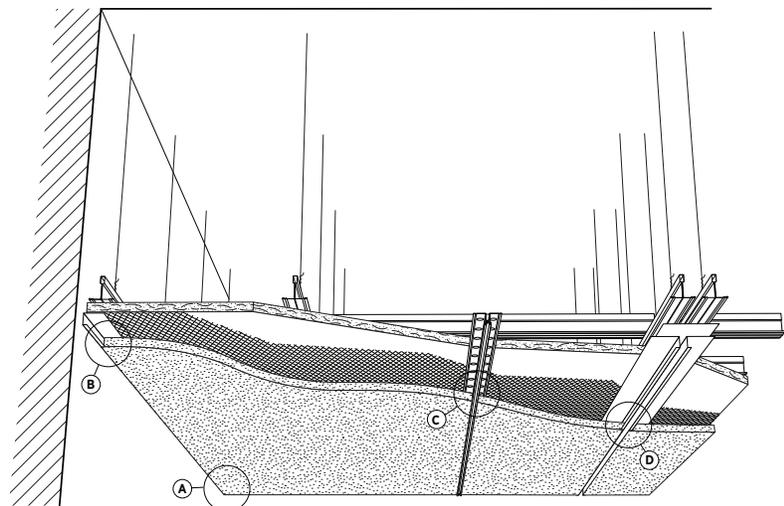
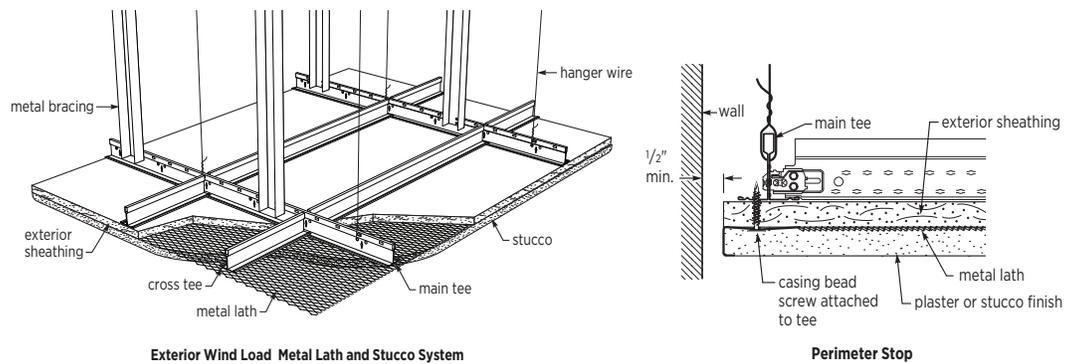


DETAIL D
Expansion Joint

EXTERIOR INSTALLATION INSTRUCTIONS

INSTALLATION

1. Suspension System and Hanger Wire
 - a. Main Tees - Laid out at 36" or 24" OC based on Membrane Load Value Table
 - b. Cross Tees - Laid out 16" or 24" OC based on Membrane Load Value Table
 - c. 12 Gauge Hanger Wire - Laid out no greater than 36" OC or otherwise dictated on Membrane Load Value Table
2. Lateral Force Bracing
 - a. Metal Stud thickness and spacing noted in **Table A** and Wind Load Data
3. (Optional) Panel, Sheathing or Plywood - "Hard Lid"
 - a. Optional Gypsum, Sheathing or Wood membrane to be fastened into Drywall Suspension Framing Members
4. Metal Lath
 - a. 3/8", 3.4 lb Galvanized Self Furring Ribbed Sheet Lath 27" x 96"
5. Perimeter
 - a. Isolate perimeter with 1/2" min. gap but not to exceed 3/4"
 - b. Install casing bead installed at perimeter
6. Stucco/Plaster/EIFs Application
 - a. Compound, mixture, thickness to be project specified



EXTERIOR INSTALLATION INSTRUCTIONS

TABLE A

Metal stud spacing for lateral force bracing

Steel members with sufficient strength are allowed by code and may be suitable for use as a compression post. Below are some common, light-gauge steel members provided by others that are typically used as compression posts.

| Uplift Class / Maximum Pressure | Maximum length (in.) | Compression Post |
|---------------------------------|----------------------|--|
| Class 15 & Class 30 / 30 psf | 96 | Min. 1-5/8" in. — 20-ga. stud |
| | | Min. 1-5/8" in. — 20-ga. track |
| Class 60 / 60 psf | 48 | Min. 1-5/8" in. — 20-ga. stud |
| | | Min. 1-5/8" in. — 20-ga. track |
| | 96 | Min. 2-1/2" in. — 20-ga. stud back to back |
| | | Min. 2-1/2" in. — 20-ga. stud back to back |
| Class 90 / 150 psf | 48 | Min. 1-5/8" in. — 20-ga. stud |
| | | Min. 1-5/8" in. — 20-ga. track |
| | 96 | Min. 2-1/2" in. — 20-ga. stud back to back |
| | | Min. 2-1/2" in. — 20-ga. stud back to back |

Notes

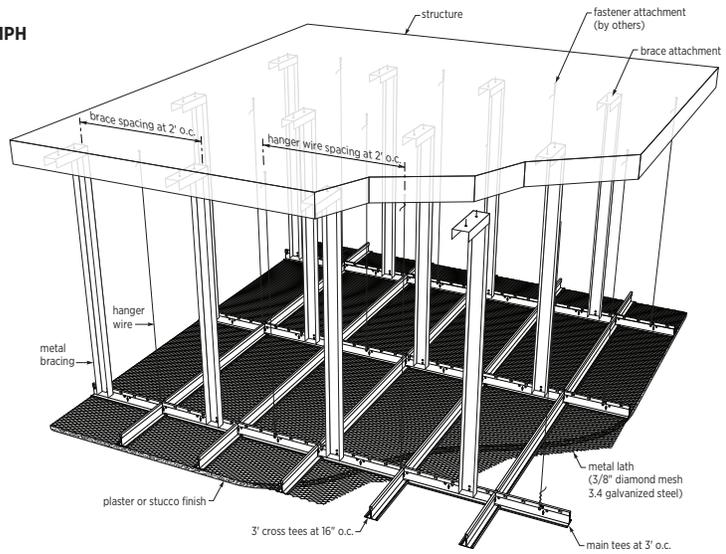
1. The information provided is for quick reference only. Other restrictions and exemptions may apply.
2. All struts and allowable lengths should be verified by a design professional before use.
3. A structural engineer should be consulted for lengths greater than 8 ft.
4. Larger posts can be used; however, the compression post properties listed above shall be considered minimums.
5. The compression post must be attached to the grid member with at least four #8 screws.
6. The compression post attachment to the structure shall be determined by the engineer of record.

WIND LOAD DATA

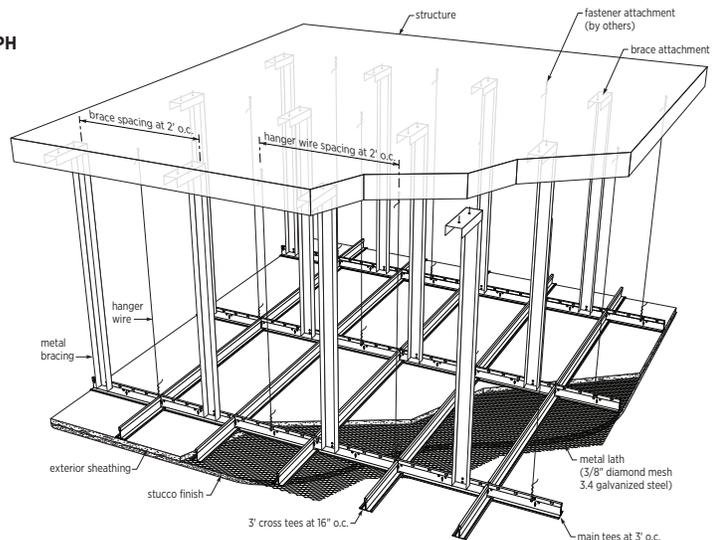
| | Type | Main Tee Spacing (Inch) | Cross Tee Spacing (Inch) | Compression Post Spacing (Inch) | Tested Panel Size | Test Standard | Maximum Load Rating (psf) | | Equivalent Wind Speed mph. (kPh) |
|--|------|-------------------------|--------------------------|---------------------------------|-------------------------------|---------------------------------------|------------------------------|----------------------|----------------------------------|
| | | | | | | | Uplift psf (kPa) | Downward psf (kPa) | |
| DWSS AND SECUROCK OR EXOAIR 430 + DIRECT APPLY FINISH SYSTEM | DGLW | 24 | 16 | 24 | 1/2" ExoAir 430 | Miami Dade TAS 202 & 203 ³ | 75 (3.59) | -75 (-3.59) | 171 (275) |
| | | 24 | 16 | 24 | 1/2" ExoAir 430 | Miami Dade TAS 202 & 203 ³ | 75 (3.59) | -75 (-3.59) | 171 (275) |
| DWSS AND DRYWALL | DGLW | 48 | 24 | 24 | 1 layer of 5/8" | UL 580 ² | 15 (0.72) | | 77 (124) |
| | | 48 | 16 | 30 | 1 layer of 1/2" | UL 580 ² | 15 (0.72) | | 77 (124) |
| | | 48 | 24 | 30 | 1 layer of 1/2" | UL 580 ² | 15 (0.72) | | 77 (124) |
| | | 24 | 24 | 30 | 1 layer of 5/8" | UL 580 ² | 30 (1.44) | | 108 (174) |
| | | 24 | 24 | 42 | 2 layer of 5/8" | UL 580 ² | 60 (2.87) | | 153 (246) |
| | | 24 | 24 | 30 | 2 layer of 5/8" | UL 580 ² | 90 (4.31) | | 188 (302) |
| | | 24 | 16 | 24 | 3/8" plywood and 5/8" drywall | UL 580 ² | 90 (4.31) | | 188 (302) |
| | | DWSS AND CEMENT STUCCO | DGLWSP | 36 | 16 | 24 | Typical Cement Stucco 12 psf | UL 1897 ¹ | 200 (9.57) |

- Factor of safety of 1.17 is included per test standard
- Factor of safety of 1.5 for 30 psf; 1.3 for 60 psf; 1.17 for 90 psf is included per test standard
- Factor of safety of 1.5 is included per test standard

System for Maximum Wind Speed Up to 172 MPH



System for Maximum Wind Speed Up to 172 MPH



Technical Service
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usg.com

Samples/Literature E-mail
samplit@usg.com

Customer Service
800 950.3839

SAFETY FIRST!

Follow good safety and industrial hygiene practices during handling and installation of all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read Safety Data Sheets and related literature on products before specification and/or installation.

NOTE

All products described here may not be available in all geographic markets. Consult your local sales office or representative for information.

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AC292945/rev 6-22

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