

# Technical Data

Donn<sup>®</sup> Fineline<sup>®</sup>/Fire-Rated Fineline Acoustical Suspension System

### Features

Fineline<sup>®</sup> suspension systems provide a premium monolithic ceiling look with a wide variety of layouts, low cost, quick installation and access benefits of standard exposed grid. Its narrow slotted profile makes the Fineline suspension system practically disappear into acoustical panels to form a smooth, clean ceiling plane with less exposed metal. Fineline<sup>®</sup> components are also included in the Logix Integrated Ceiling System which allows Designers to organize utilities along 6" channels and select from a wide variety of layouts and panel sizes. Mitered intersections give Fineline grid the crisp architectural detailing preferred in today's office environment. And its all-steel hot-dipped galvanized construction means strength, dimensional stability and superior corrosion resistance at low cost.



HALCYON 2'x8' Ceiling Panels with FL Edge, DXF Fineline, 6" x 24" Perforated Metal Connector Panels with UFL Edge, Focal Point, Avenue-6 Light Fixture)

#### **Designers:**

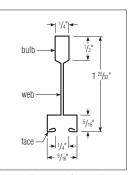
- Able to accommodate a wide variety of panel sizes such as 20"x60" or 30"x60".
- Sustainability High recycled content (HRC) available, including high post-consumer content. Visit the LEED report tool at www.USGDesignStudio.com for specifics (HRC)
- Accessories available to easily accommodate T5/T5HO fluorescent luminaries for superior energy performance
- Mitered intersections provide clean, finished appearance
- Reveal accommodates partition attachments and pendant-mounted light fixtures
- Meets or exceeds all national code requirements, including seismic and fire rated assemblies up to 1.5 hours
- Superior partition attachment and re-usability of suspension system avoiding costly removal and demolition of existing grid when reconfiguring space

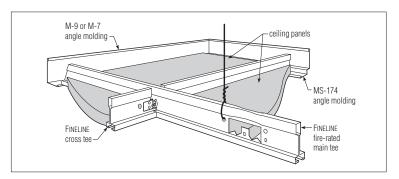
#### For the Contractor:

- Quick-Release<sup>™</sup> DX<sup>™</sup> Clip, cross tees can be easily removed without tools. Simply rotate the main tee at the cross tee intersection. Tees are reusable, no repairs or rework is required
- Ability to square cut panels at perimeter, and save time, when using MS 174 Shadow Molding resulting in the Fineline grid installing level to the molding with no visible "mouse hole" and no panel edges to field paint.

- Formed of G30 hot dipped galvanized and painted commercial grade steel for excellent corrosion resistance. G60 available for severe environments.
- Designed for narrow grid reveal edge panels, such as USG Fineline edge panels, for a flush, monolithic, look.
- MS 174 Shadow Molding ensures quality finish at perimeter with no visible "mouse holes" or unpainted exposed tile edges.
- DONN® air diffuser available
- Main tees are available in both intermediate and heavy duty
- Multiple UL floor/ceiling and roof ceiling designs
- Comes in White, White with Black, and Silver Satin.
  See the USG Ceiling Systems Catalog (SC2000) for color options
- Accepts Celebration metal ceilings for ceiling-area accents without changing grid systems.
- ICC-ES evaluated approach to seismic design installations
- Cross tees can be inserted from multiple angles resulting in a faster installation
- Audible "click" ensures positive engagement when cross tees are inserted
- Cross tees can be cantilevered during installation without falling out

### Details

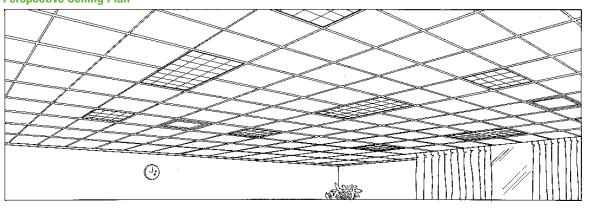




Main Tee and Cross Tee

### Applications

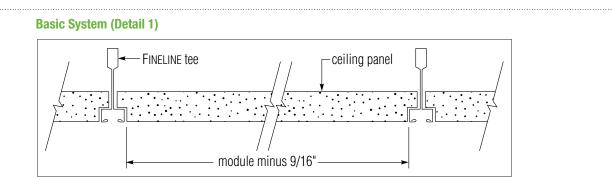
#### **Perspective Ceiling Plan**



#### **Reflected Ceiling Plan**

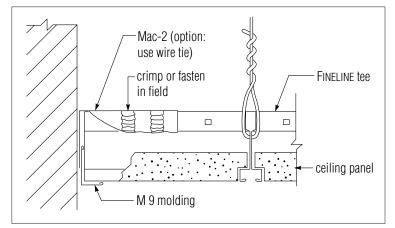


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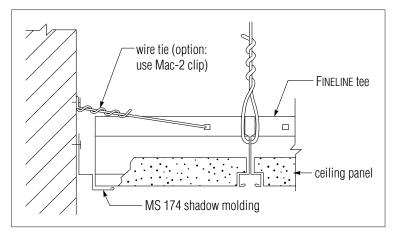
Nominal dimension between Fineline tees is module minus 9/16". All major panel manufacturers will supply properly sized panels to fit Fineline suspension (specify when ordering panels).

#### Perimeter Detail with M9 Molding (Detail 2a)

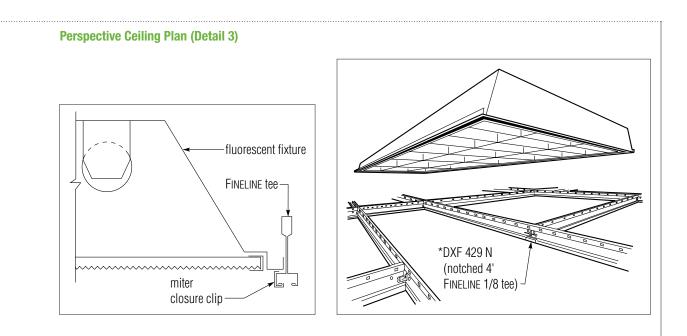


See seismic applications for additional perimeter details.

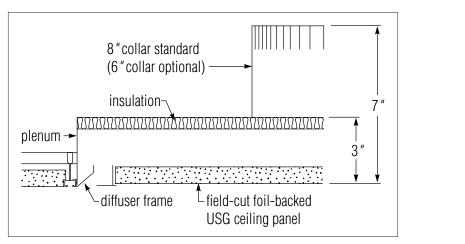
#### Perimeter Detail with MS174 Shadow Molding (Detail 2b)



See seismic applications for additional perimeter details.



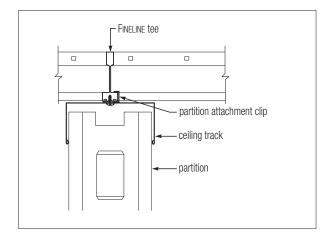
#### Air Diffuser (Detail 4)



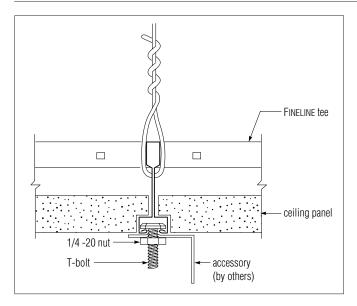
See the AC272 Donn Air Diffuser for additional air diffuser details and technical diffuser design data.

#### Partition Attachment (Detail 5)

- Superior STC and CAC performance with partition attachment when compared to T-Bar and other narrow profile grid systems that do not have a bolt-slot reveal. Other profiles leave gaps that must be sealed for sound control.
- Longer product lifecycle because Fineline suspension system do not have to be replaced when partitions are removed and re-located because there are no unsightly screw holes left behind (as compared to T bar grids).
- Note: Alternate partition attachment clips on opposite sides of runner to prevent lateral movement.

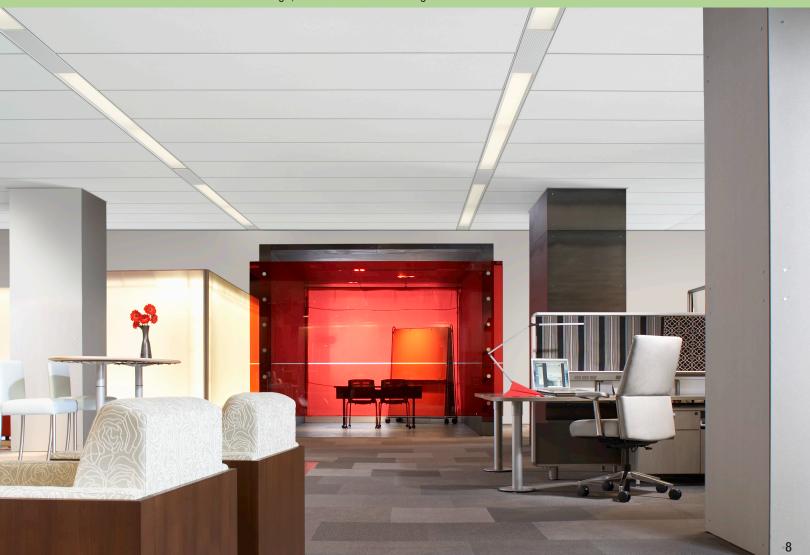


#### **T-Bolt Use (Detail 6)**



### Wide variety of layout options to accommodate various panel sizes with Logix Integrated Ceiling Solutions

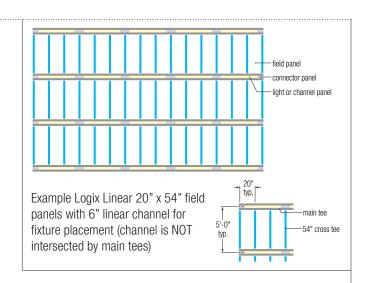
HALCYON 2'x8' Ceiling Palels with FL Edge, DXF Fineline, 6"x 24" Perforated Metal Connector Panel with UFL Edge, Focal Point Avenue-8 Light Fixture

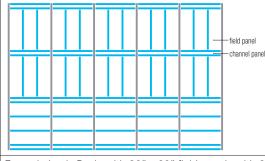


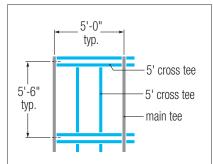
## Applications

#### Logix Integrated Ceiling System Applications

- Standard Donn Fineline suspension systems components are available for all Logix Linear and Logix Basic integrated ceiling systems layouts. Over 18 standard layout options such as 20"x60" or 30"x60". Refer to the Logix Integrated Ceilings Systems section of the USG Ceilings Systems catalog (SC2000) to review the layout options. Additional layout options on www. USGDesignStudio.com
- Available in custom lengths and notch spacing to meet your exact specifications. Refer to your USG Ceilings representative for further details on custom orders (minimum one carton quantities on custom orders).



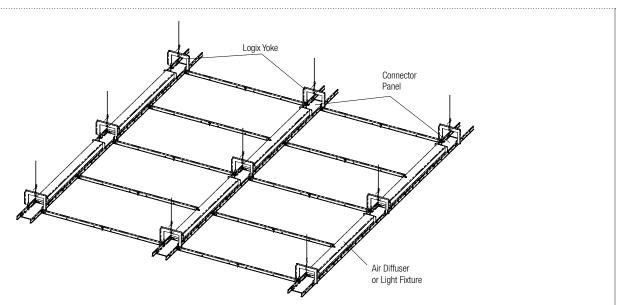




Example Logix Basic with 20" x 60" field panels with 6" linear channel for fixture placement (channel is intersected by main tees)

#### Module Size Panel Size Main Tee Cross Tee (A) Cross Tee (B) Cross Tee (C) Linear 30" x 27" DXF54N-LGX DXF529N DXF27-LGX DXF120/30S-LGX Linear 20" x 54" DXF120/20S-LGX DXF54-LGX Linear 30" x 54" DXF120/30S-LGX DXT54-LGX 4' x 4' 21" x 24" DXF144/21-LGX DXF429S DXF429N DXF21-LGX 4' x 4' 24" x 42" DXF144/42-LGX DXF429S DXF42-LGX 4' x 4' 42" x 48" DXF144/48-LGX DXF429 N/A 4'-6" x 4 24" x 24" DXF108/24-LGX DXF429S DXF429N DXF229 4'-6" x 4' 24" x 48" DXF108/48-LGX DXF429N DXF429 4'-6" x 4' 48"x48" DXF108/48-LGX DXF429 5' x 5' 20" x 54" DXF120/54-LGX DXF529S-20-LGX DXF54-LGX DXF120/54-LGX DXF529S-LGX DXF529N DXF54-LGX 5' x 5' 30" x 54" DXF529S-20-LGX 5'-6" x 5' 20" x 60" DXF132/60-LGX 30" x 30" DXF132/30-LGX DXF529S-LGX DXF529N 5'-6" x 5' 5'-6" x 5' 30" x 60" DXF132/60-LGX DXF529S-LGX DXF529 6'-6" x 4' 24" x 24" DXF78/24-LGX DXF429S DXF429N DXF229 6'-6" x 4' 24" x 72" DXF78/72-LGX DXF429N DXF629 8'-6" x 4' 24" x 24" DXF102/24-LGX DXF429S DXF429N DXF229 8'-6" x 4' 24" x 96" DXF102/96-LGX DXF429S DXF829 8'-6" x 4' 48" x 48" DXF102/48-LGX DXF429

#### Logix Grid Selector:

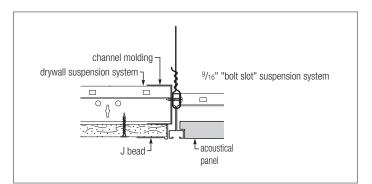


#### **Logix Accessories**

Logix Yoke 6' x 6' HDG
Logix Connector Panel, 6" x 12" Solid, Flat White, FM edge
Logix Connector Panel, 6" x 12" Perf. C116, Flat White, FM edge
Logix Connector Panel, 6" x 12" Perf. C116D, Flat White, FM edge
Logix Connector Panel, 6" x 12" Solid, Flat White, FL edge
Logix Connector Panel, 6" x 12" Perf. C116, Flat White, FL edge
Logix Connector Panel, 6" x 12" Perf. C116D, Flat White, FL edge
Logix Connector Panel, 6" x 24" Solid, Flat White, FM edge
Logix Connector Panel, 6" x 24" Perf. C116, Flat White, FM edge
Logix Connector Panel, 6" x 24" Perf. C116D, Flat White, FM edge
Logix Connector Panel, 6" x 24" Solid, Flat White, FL edge
Logix Connector Panel, 6" x 24" Perf. C116, Flat White, FL edge
Logix Connector Panel, 6" x 24" Perf. C116D, Flat White, FL edge
20" Stabilizer Bar
30" Stabilizer Bar

#### **Transitions:**

- Seamless transition to other module layouts
- Easy transition to drywall ceilings using USG Drywall Suspension System, see USGDesignStudio.com for details.



### Seismic Applications

#### **Seismic Approvals:**

- Meets or exceeds all national code requirements with 7/8" wall molding
- Fulfills requirements for IBC seismic design categories A-F
- Certified with maximum sq.ft. weights, representing complete ceiling systems
- Suspension systems manufactured by USG Interiors, Inc., have been reviewed and are approved by listing in ICC-ESR-1222. Evaluation Reports are subject to reexamination, revision and possible cancellation. Please refer to USGDesignStudio.com for current reports.
- More information at www.USGDesignStudio.com

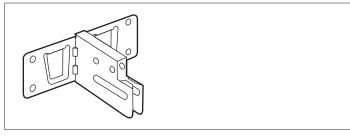
#### **Seismic Technical Guides**

Additional clarification of seismic ceiling design elements not prescriptively addressed in the IBC are available from USG in the form of a series of Seismic Technical Guides.

SC2493	Seismic Technical Guide, Light Fixture Hanger Wire Requirements
SC2494	Seismic Technical Guide, Specialty and Decorative Ceilings
SC2495	Seismic Technical Guide, Suspended Drywall Ceiling Construction
SC2496	Seismic Technical Guide, Seismic Expansion joints
SC2497	Seismic Technical Guide, Compression Posts
SC2498	Seismic Technical Guide, Seismic Clip Perimeter Interface
SC2508	Seismic Technical Guide, Slopped Ceilings

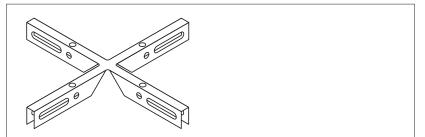
#### Seismic Accessories

#### ACM7 Seismic Clip



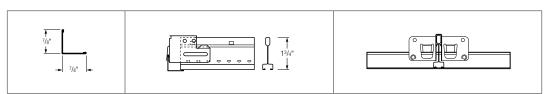
The Donn ACM7 seismic clip is designed to provide the most robust hold in the most stringent seismic design categories

#### 4-Way Seismic Expansion Joint Clip

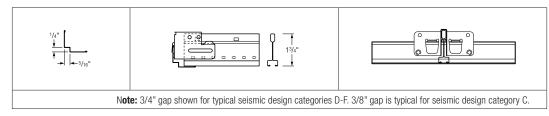


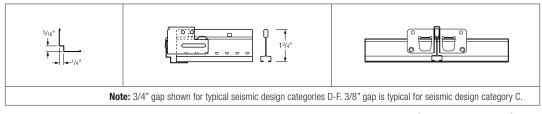
The Donn DH4 seismic expansion joint clip is designed to provide the most robust hold in the most stringent seismic design categories

#### **M7 Seismic Interface**



#### **Shadow Molding Interface**





Note: USG M9 wall molding is commonly used with narrow 9/16 in. suspension system profiles such as Fineline<sup>®</sup>, DXF/DXLF and Fineline<sup>®</sup> 1/8 DXFF. When the USG ACM7 seismic clip is used with M9 wall molding in Seismic Design categories, D, E, and F, a slight gap between the tee end and the wall molding leg will exist – where a ¾ in. end wall clearance of the tee end is required on two adjacent sides – as the horizontal leg of M9 is 9/16in. Therefore it is recommended that M7 wall molding be used in lieu of M9 wall molding in these applications. Fixture weight is based on single fixture only.

### Code Acceptance

#### **General:**

- ASTM: This system meets or exceeds load compliance specifications per ASTM C635. Main tees will not deflect more than 1/8" over a 48" span (or L/360) in Light Duty, Intermediate Duty or Heavy Duty categories.
- Must be installed in compliance with ASTM C636, CISCA, and standard industry practices
- L.A. Research Report Compliance: Donn brand suspension systems manufactured by USG Interiors, Inc., have been reviewed and are approved by listing in one or more of the following L.A. Research Report numbers: 22179, 23451, 24095, 25764
- The City of New York BSA and MEA Report Compliance: Donn suspension systems have been approved by listing in one or more of the following City of New York Board of Standards and Appeals, and Department of Building, Materials and Equipment Acceptance reports: BSA 618-60-SM, BSA 184-77-SM, BSA 796-81-SM, MEA 366-93-M, MEA 133-95-M, MEA 312-99-M, MEA 123-00-M.

#### Seismic:

- ICC-ESR-1222
- Meets or exceeds all national code requirements with 7/8" wall molding
- Fulfills requirements for IBC seismic design categories A-F
- Certified with maximum sq.ft. weights, representing complete ceiling systems
- Suspension systems manufactured by USG Interiors, Inc., have been reviewed and are approved by listing in ICC-ESR-1222. Evaluation Reports are subject to reexamination, revision and possible cancellation. Please refer to USGDesignStudio.com for current reports.

### Performance Data

#### Load test

#### DFX Main Tee Load Test Data

Main Tee	ASTM Classification	Length	Height	4' Hanger Spacing (Lbs./LF)	5' Hanger Spacing (Lbs./LF)	6' Hanger Spacing (Lbs./LF)
DXF 29	Intermediate	12'	1-25/32"	12.3	6.1	3.6
DXFH 29	Heavy-Duty	12'	1-25/32"	16.7	7.3	4.9

Note: To establish the maximum lbs./ft.<sup>2</sup> of ceiling, divide the load given in the tables by the main tee spacing in feet. All load test data and connection values are identical for DXF and DXLF.

#### DFX Cross Tee Load Test Data

Cross Tee	Length	Height	4' Hanger Spacing (Lbs./LF)	5' Hanger Spacing (Lbs./LF)	6' Hanger Spacing (Lbs./LF)
DXF 29	2'	1-25/32"	59.8	N/A	N/A
DXF 429N	12'	1-25/32"	16.7	7.3	4.9
DXF 529N	5'	1-25/32"	N/A	N/A	6.9

Note: To establish the maximum lbs./ft.<sup>2</sup> of ceiling, divide the load given in the tables by the main tee spacing in feet. All load test data and connection values are identical for DXF and DXLF.

#### **DFX Connection Values in Pounds**

Type Intersection	Tension	Compression
Main Tee Splice (DXF 29)	246	250
Cross Tee Connections (DXF)	356	250

Note: All load test data and connection values are identical for DXF and DXLF.

#### **Fineline DXLF Fire-Rated Assemblies**

Hour Rating & UL Number	Module Size	Panel Thickness	Panel Mfr.	% Fixtures Per 100 sq. ft.	Air Openings in.²/100 sq. ft.	Concrete Thickness
1-1/2 Hr. (Unrestrained) G264	24" x 24"	5/8"	USG Interiors	24% (24" x 24")	113	2-1/2"
1-1/2 Hr. (Restrained) G264	24" x 24"	5/8"	USG Interiors	24% (24" x 24")	113	2-1/2"
1 Hr. (Restrained) P254	24" x 24"	3/4"	USG Interiors	24% (24" x 24" or 48")	113	N/A
3/4 Hr. (Unrestrained) P254	24" x 24"	3/4"	USG Interiors	24% (24" x 24" or 48")	113	N/A

From the Fire Resistance Index of Underwriters Laboratories, Inc.

(UL) Resistance Classification (Fire), Floor or Roof, and Ceiling Construction and Beam Protection.

#### **General Notes:**

1. Consult with UL Fire Resistance Directory and revisions for all information listed in this table and for suspension requirements.

2. Assembles are tested with method and criteria established in standard UL 263, also known as A2.1, ASTM E119 and NFIPA 251.

#### **Maximum Fixture Weight**





Main Tee to Main Tee	-++-	-  -
Fixture	24" x 48"	20" x 60"
Planning Module	48" x 48"	60" x 60"
Hanger Spacing	48"	48"
DXF 29	75 lbs.	56 lbs.
DXFH 29	75 lbs.	75 lbs.

• Dots indicate hanger locations

Cross Tee to Cross Tee				
Fixture	24" x 24"	24" x 48"	20" x 60"	20" x 60"
Planning Module	48" x 48"	48" x 48"	60" x 60"	60" x 60"
Hanger Spacing	48"	48"	48"	48"
DXF 429	62 lbs.	70 lbs.	N/A	N/A
DXF 529	N/A	N/A	75 lbs.	70 lbs.

Note: The above fixture data is based on 48" hanger wire spacing, panel weight of 1 lb./sq. ft, maximum delection of tees not to exceed 1/360 of the span, and suspension installed is accordance with ASTM C636.

All sides of light fixtures adjacent to a tee.

Fixture weight is based on single fixture only. For end-to-end fixtures or other configurations not shown consult your USG Interiors, Inc. representative or a qualified engineer.

Ashlar connections shall be printed through the cross tee clips.

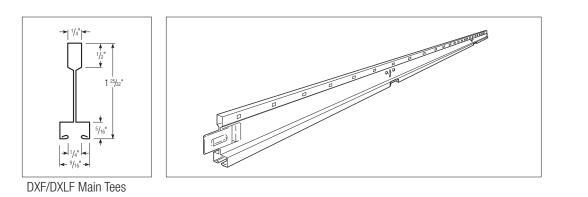
\*\*Fixture weights are nonfire-rated installation only. Consult UL design number for specific fixture location and suspension requirements on fire-rated designs.

#### **USG Resources**

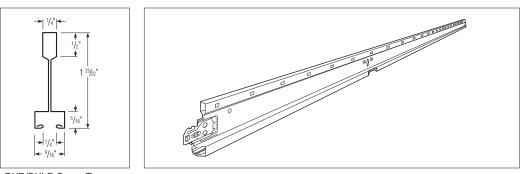
- SC2000 Ceilings Systems Catalog
- USGDesignStudio.com
  - Specification Generator
- Submittal Builder
- LEED Report Tool - Installation Guide
- UL Fire Rated Assemblies
- Revit Files

- Application Guides
- Competitive System Comparison Guide
- AC3034 Donn Fineline Ceiling Suspension Data Page
- AC272 Donn Air Diffusers
- SC2102 Donn Ceiling Products Warranty

# Components

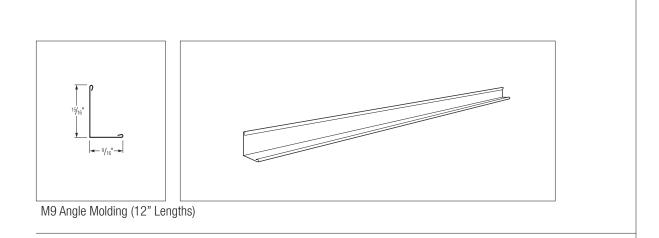


DXF Main Tees	Description
DXF2930	10' Main Tee Notched 30" o.c. For use with 30"x30" panels
DXF2924	12' Main Tee Notched 24"o.c. / CT Hole 12" o.c.
DXF2924HRC	12' Main Tee Notched 24"o.c. / CT Hole 12" o.c. HRC, FN: F
DXF2924-10	10' Main Tee Notched 24" o.c./ c.t. hole @ 12" o.c.
DXF2948	12' Main Tee Notched 48" o.c./ c.t. hole @ 12" o.c. For use with 4'x4' and 2'x4' panels
DXF144/21-LGX	12' Main Tee Notched for 21" panel for Logix Ceiling Systems
DXF144/42-LGX	12' Main Tee Notched for 42" panel for Logix Ceiling Systems
DXF144/48-LGX	12' Main Tee Notched for 48" panel for Logix Ceiling Systems
DXF108/24-LGX	9' Main Tee Notched for 24" panel for Logix Ceiling Systems
DXF108/48-LGX	9' Main Tee Notched for 48" panel for Logix Ceiling Systems
DXF120/27-LGX	10' Main Tee Notched for 27" panel for Logix Ceiling Systems
DXF120/54-LGX	10' Main Tee Notched for 54" panel for Logix Ceiling Systems
DXF132/30-LGX	11' Main Tee Notched for 30" panel for Logix Ceiling Systems
DXF132/60-LGX	11' Main Tee Notched for 60" panel for Logix Ceiling Systems
DXF78/24-LGX	6-1/2' Main Tee Notched for 24" panel for Logix Ceiling Systems
DXF78/72-LGX	6-1/2' Main Tee Notched for 72" panel for Logix Ceiling Systems
DXF96/30-LGX	8' Main Tee Notched for 30" panel for Logix Ceiling Systems
DXF102/96-LGX	8-1/2' Main Tee Notched for 96" panel for Logix Ceiling Systems
DXF102/48-LGX	8-1/2' Main Tee Notched for 48" panel for Logix Ceiling Systems
DXF102/24-LGX	8-1/2' Main Tee Notched for 24" panel for Logix Ceiling Systems
DXF126/60-LGX	10-1/2' Main Tee Notched for 60" for Logix Ceiling Systems
DXF144/24S-LGX	12' Main Tee Notched 24" o.c. one side/c.t. holes @12" o.c. for Logix Ceiling Systems
DXF120/30S-LGX	10' Main Tee Notched 30" o.c. one side/c.t. holes @12" & 30" o.c. for Logix Ceiling Systems
DXF120/20S-LGX	10' Main Tee Notched 20" o.c. one side/c.t. holes @12" & 20" o.c. for Logix Ceiling Systems
Heavy Duty Main Tees	Description
DXFH2924	12' Main Tee Notched 24" o.c/c.t. holes 12" o.c.
Fire Rated Main Tees	Description
DXLF2924	DXLF Intermediate Duty Fire-Rated Main Tee
Environmental Fineline	Description
DXFEV2912	12' Main Tee Notched 12" o.c./c.t. holes 12" o.c. G60 galvanized black and white
DXFEV2924	12' Main Tee Notched 24" o.c./c.t. holes 12" o.c. G60 galvanized black and white

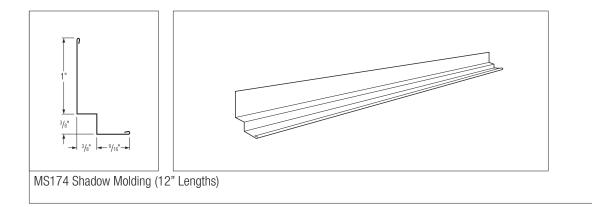


DXF/DXLF Cross Tees

DXF Cross Tees	Description
DXF429S	4' Cross Tee Notched one side at mid-point for light fixture
DXF429N	4' Cross Tee Notched mid-point
DXF429NHRC	4' Cross Tee Notched mid-point HRC, FN: F
DXF529N	5' Cross Tee Notched mid-point
DXF529S-LGX	5' Cross Tee Notched one side at mid-point for Logix Basic Ceiling Systems
DXF529N-20-LGX	5' Cross Tee Notched 20" o.c. for Logix Basic Ceiling Systems
DXF529S-20-LGX	5' Cross Tee Notched 20" o.c. one side for Logix Basic Ceiling Systems
DXF129	1' Cross Tee no Notch
DXF229	2' Cross Tee no Notch
DXF229HRC	2' Cross Tee no Notch HRC, FN: F
DXF429	4' Cross Tee no Notch
DXF529	5' Cross Tee no Notch
DXF629	6' Cross Tee
DXF829	8' Cross Tee
DXF30	30" Cross Tee no Notch
DXF21-LGX	21" Cross Tee no Notch for Logix Ceiling Systems
DXF27-LGX	27" Cross Tee no Notch for Logix Ceiling Systems
DXF42-LGX	42" Cross Tee no Notch for Logix Ceiling Systems
DXF54-LGX	54" Cross Tee no Notch for Logix Ceiling Systems
DXF54N-LGX	54" Cross Tee, Center Notched for Logix Ceiling Systems
DXF57	57" Cross Tee, No Notch
Environmental Fineline	Description
DXFEV229	2' Cross Tee no Notch G60 galvanized black and white
DXFEV429N	4' Cross Tee Notched mid-point G60 galvanized black and white
DXFEV629	6' Cross Tee G60 galvanized black and white
DXFEV829	8' Cross Tee G60 galvanized black and white



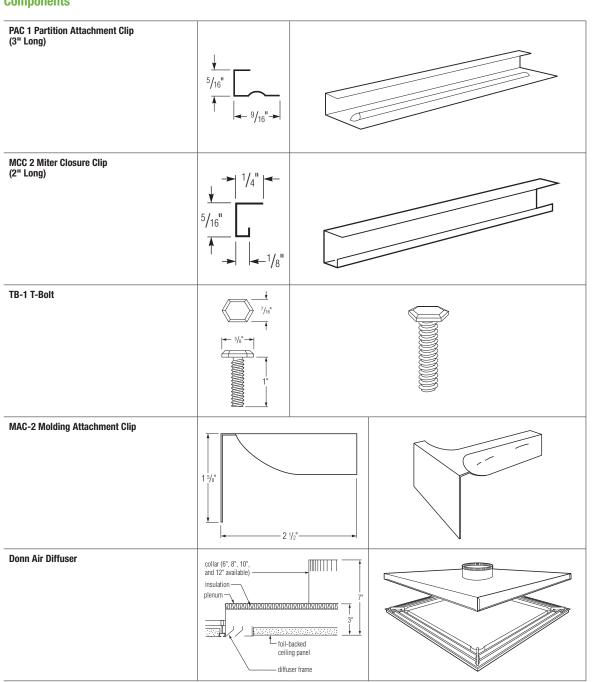
M9	Description
M9	12' x 9/16" x 15/16" Wall Molding



Shadow Molding	Description
MS174	12' x 1" x 3/8" x 3/8" x 9/16" Shadow Molding
MS274	10' x 7/8" x 3/4" x 1/4" x 1-1/4" Seismic Shadow Molding

### Accessories

#### **Components**





### Websites usg.com usgdesignstudio.com

### **Technical Service** 800 USG.4YOU

Samples/Literature E-mail samplit@usg.com

**Samples/Literature Fax** 888 874.2348

**Customer Service** 800 950.3839

#### Product Information

See usg.com for the most up-to-date product information. Note

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#### 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 material safety data sheets and related literature on products before specification and/or installation.

