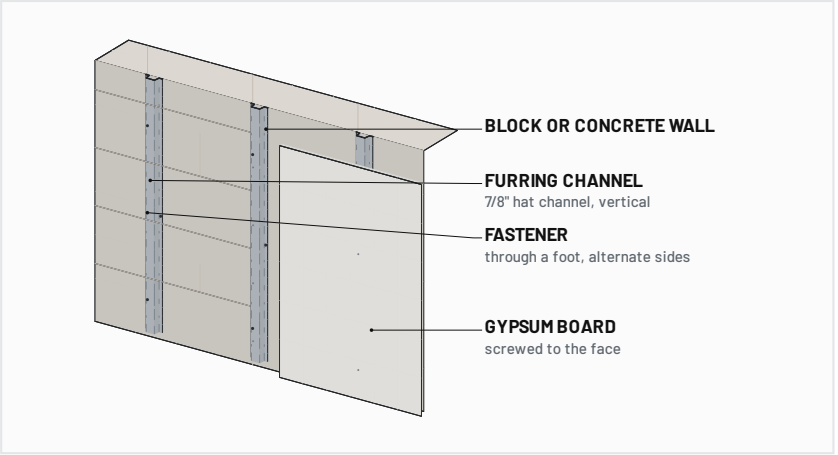
7/8" FURRING CHANNEL (HAT CHANNEL)

Hat-shaped channel for furring walls and building flat drywall ceilings





PRODUCT 11 · STEEL FRAMING ACCESSORIES

The 7/8" furring channel, also called **hat channel** or furring bar, is a light, hat-shaped galvanized steel channel. Its feet fasten to a masonry or concrete wall, to joists or the structure, or tie under carrying channel; its flat face gives a straight line to screw gypsum board to. Saturn Metal offers the 087F125 profile in 18, 33 and 43 mil, and custom hat sections to order.

- 3 items: 18 mil hemmed, 33 and 43 mil
- 7/8" deep, 1-1/4" face, 2-1/2" overall
- 33 ksi steel, G40 (18 mil) or G60 coating
- Furs walls, builds suspended and direct-fixed drywall ceilings

DEPTH	FACE	OVERALL	THICKNESS	LENGTHS	YIELD
7/8"	1-1/4"	2-1/2"	18 · 33 · 43 mil	10' · 12'	33 ksi

1 FOUR NAMES, ONE CHANNEL

Furring channel
The trade name: it "furs out" a wall or ceiling, giving a straight, even line of steel to screw the board to.

Hat channel
The same member, named for its hat-shaped section: a flat face, two sloped webs and two feet.

Furring bar
Another name used on site and on Saturn order sheets for the same 7/8" channel.

087F125
Its designator: 7/8" (0.875") deep, F for furring, 1-1/4" face. Add the thickness: 087F125-18, -33 or -43.

2 THE PARTS

1. **Face.** The flat 1-1/4" face, away from the support. Gypsum board, cladding or lath is screwed to it.
2. **Webs.** Two webs, 7/8" deep, sloped at 77° ± 8°. They stand the face off the wall and give the channel its stiffness.
3. **Feet.** Two 1/2" feet that sit on the wall, joists or carrying channel and take the fasteners or ties.
4. **Hem (18 mil).** On 087F125-18 each foot edge is folded back 3/16": a stiffer foot and no raw edge. 33 and 43 mil have plain feet.

ONE PROFILE
087F125: 7/8" deep, 1-1/4" face, 2-1/2" overall

THREE THICKNESSES
18 mil hemmed, 33 and 43 mil plain feet

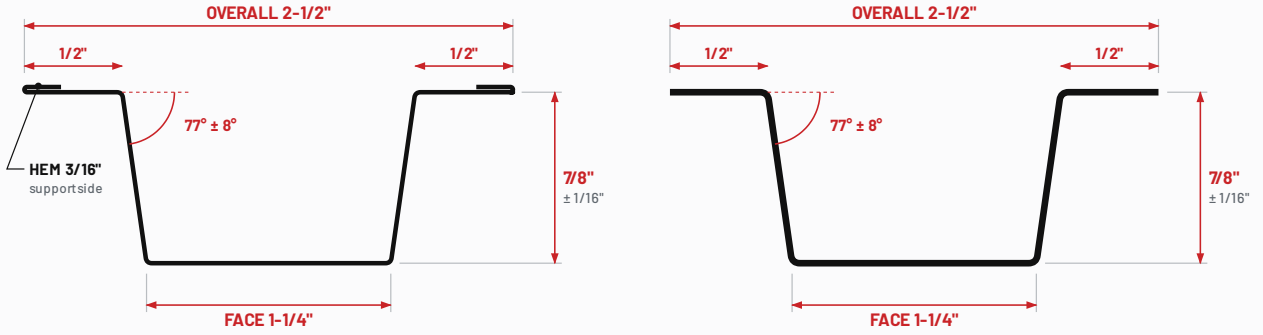
WALLS AND CEILINGS
Furs out masonry; builds flat drywall ceilings

CUSTOM HATS
Any hat section to your dimensions, to order

PROFILE & SIZES

One profile, three thicknesses, and which to use

3 PROFILE



087F125-18
hemmed feet · 18 mil · G40

087F125-33 · -43
plain feet · 33 and 43 mil · G60

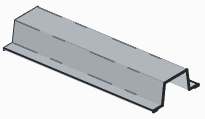
TO SCALE, THICKNESS ENLARGED · FEET ON THE WALL OR SUPPORT, FACE OUT

To scale from the 087F125 profile; dimensions out-to-out. The 18 mil hem is on the support side of each foot.

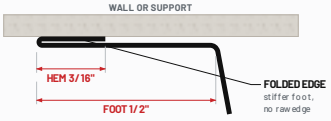
4 AT A GLANCE

DEPTH	7/8" ± 1/16"
FACE	1-1/4"
FEET	1/2" ± 1/16" each
OVERALL	2-1/2"
WEB ANGLE	77° ± 8°
THICKNESS	18 mil (25 ga, hemmed) · 33 mil (20 ga) · 43 mil (18 ga)
STEEL	ASTM A1003, 33 ksi minimum yield
COATING	G40 (18 mil) · G60 (33, 43 mil), ASTM A653
LENGTHS	10' · 12'; other lengths on request

5 ONE LENGTH



6 THE 18 MIL HEM



7 SIZES · 3 ITEMS

DESIGNATOR	THICKNESS	GAUGE	DESIGN T (IN)	FEET	COATING	LB/FT *	KG/M *	PCS / BUNDLE
087F125-18	○ 18	25	0.0188	hemmed 3/16"	G40	0.28	0.41	10
087F125-33	○ 33	20	0.0346	plain	G60	0.46	0.69	10
087F125-43	● 43	18	0.0451	plain	G60	0.60	0.90	10

* Approximate weight from the developed width (hem included) × design thickness, steel at 490 lb/ft^3; for estimating and handling only, not for design.

8 WHICH THICKNESS

18 mil · 087F125-18
The common drywall furring channel for walls and ceilings carrying gypsum board. Hemmed feet for stiffness and safer handling.

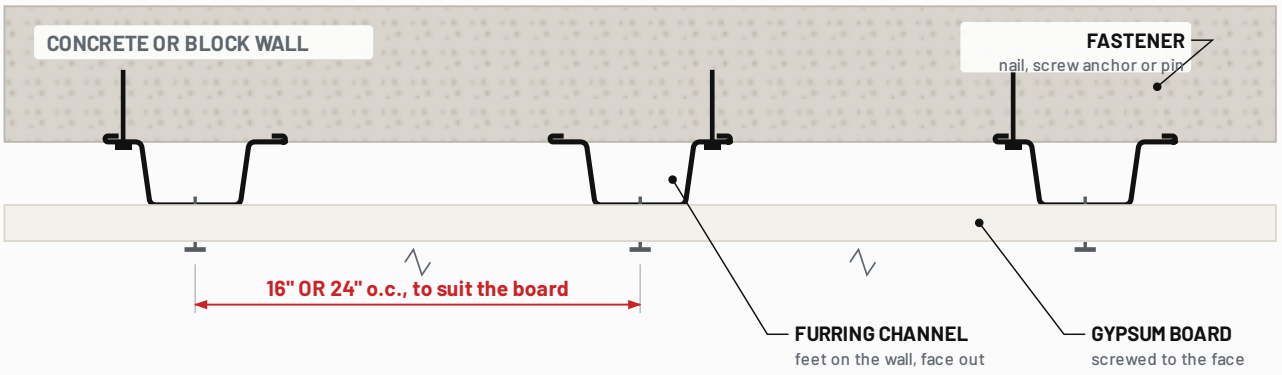
33 mil · 087F125-33
Heavier board, longer spans between supports, abuse-resistant or multi-layer assemblies, and where the design asks for 20 ga.

43 mil · 087F125-43
Cladding and heavier finishes, wider support spacings, and where screws need more steel to bite into, by design.

WALLS

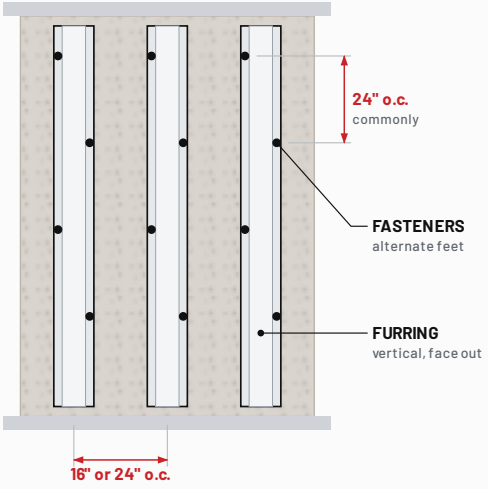
Furring masonry and concrete walls, and other wall uses

9 FURRING A MASONRY OR CONCRETE WALL



PLAN · FURRING ON A MASONRY WALL · CHANNEL AND BOARD TO SCALE, SPACING BROKEN

10 ELEVATION



ELEVATION

11 WHERE IT IS USED ON WALLS

Drywall on masonry and concrete
Channels run vertically, feet on the wall, fastened through the feet. The board screws to the face, clear of damp or uneven masonry.

Straightening uneven walls
Shim behind the feet where the wall is out of plane, so the faces line up before boarding.

Service and insulation space
The 7/8" depth leaves room for rigid insulation board between the channels and for shallow services, where the design allows.

Cladding and siding
Furs out over framing or sheathing to carry exterior or interior cladding, at the spacing and thickness the design and cladding maker give.

12 COMMONLY SPECIFIED ON WALLS

ITEM	COMMONLY SPECIFIED	NOTE
Channel direction	vertical on walls	or horizontal where the board or cladding needs it
Channel spacing	16" or 24" o.c.	to suit the board and finish
Fasteners to masonry	24" o.c., alternate feet	concrete nails, screw anchors or power-driven pins
Extra channels	at corners, openings, board ends	as the design and board layout show
Board screws	16" o.c. on walls	Type S to 18 and 33 mil; self-drilling to 43 mil

Reference values from industry practice (ASTM C754, ASTM C840); the project design, the board maker and the fastener maker govern.

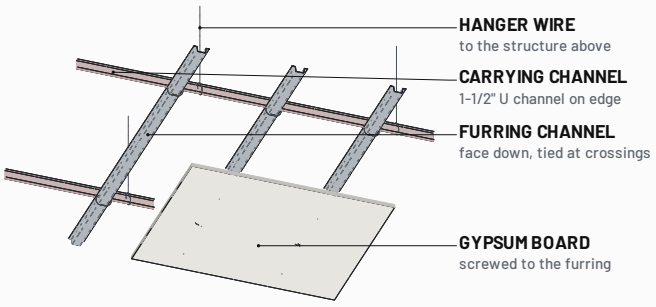
13 CONDITIONS

1. **Damp walls.** Below grade or on exterior masonry, the design sets the moisture and vapour control; the channel does not replace it.
2. **Floors and ceilings.** Keep the channel clear of the floor and slab where movement or moisture is expected; finish the board edges with trim as detailed.
3. **Outlets and fixtures.** Plan boxes and heavy fixtures between channels or add blocking; the 7/8" space is shallow.
4. **Fire and sound.** In a listed assembly, follow the listing for channel type, spacing and fasteners.

CEILINGS

Suspended under carrying channel, or fixed direct to the joists

14 SUSPENDED DRYWALL CEILING



15 TWO WAYS

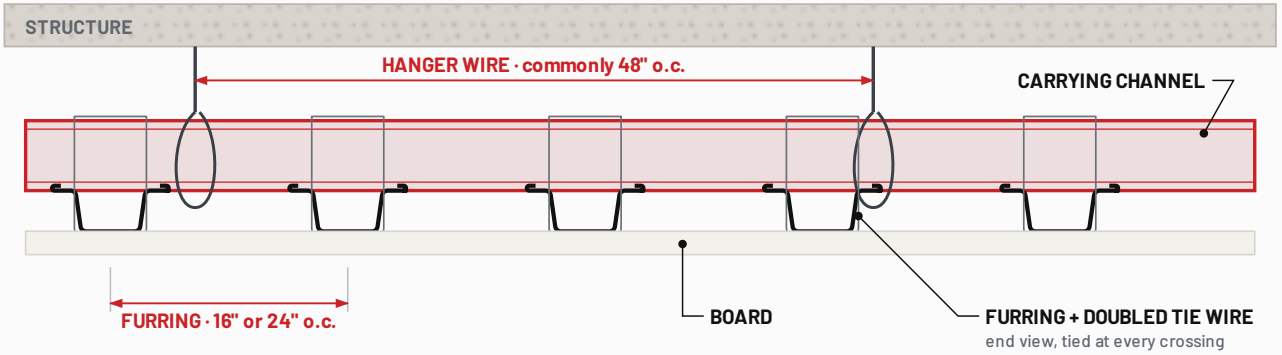
Suspended

Furring channel across the underside of 1-1/2" carrying channel, wire-tied at every crossing. The carrying channel hangs from the structure on hanger wire (DS-10).

Direct-fixed

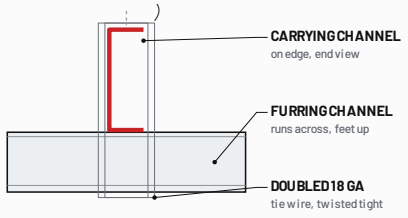
Furring channel fastened straight across wood or steel joists, or to the structure, through both feet at every support. No carrying channel.

16 SECTION · SUSPENDED



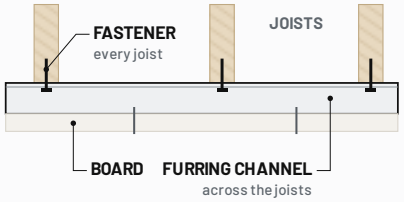
SECTION ALONG A CARRYING CHANNEL · SUSPENDED CEILING · NTS

17 TIE AT A CROSSING



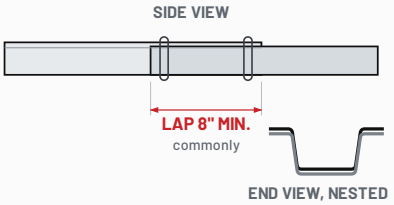
TIE AT EVERY CROSSING

18 DIRECT-FIXED



DIRECT-FIXED TO JOISTS

19 SPLICES



TIE OR SCREW EACH END

20 COMMONLY SPECIFIED ON CEILINGS

ITEM	COMMONLY SPECIFIED	NOTE
Furring channel spacing	16" or 24" o.c.	to suit the board; check the board maker
Carrying channel rows	48" o.c.	hung on wire; see DS-10
Ties at crossings	every crossing	doubled 18 ga tie wire or a clip
Splices	nested, 8" min. lap	tied or screwed at each end of the lap
Board screws	12" o.c. on ceilings	into the face only

Reference values (ASTM C754, ASTM C840); spans, spacings and loads come from the design. Light fixtures and services need their own support.

CUSTOM HAT SECTIONS

Any hat or furring profile, to your dimensions

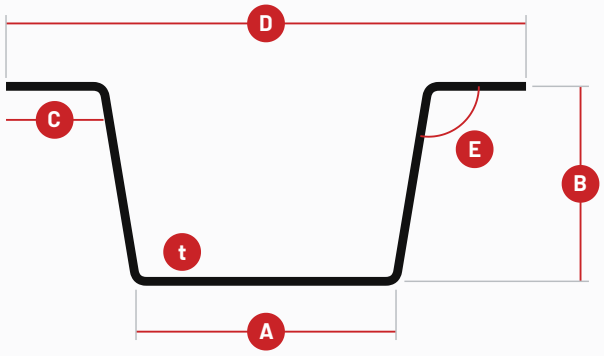
CUSTOM PROFILES

The 7/8" 087F125 is the standard furring channel. When a job needs another hat, Saturn Metal offers custom hat sections to order: any face, depth, feet and thickness, from one profile drawing, quoted per order.

Custom Bend Request

Send the dimensions below, or a sketch, with the length and quantity to Sales@SaturnMetal.ca. We confirm the profile drawing before the order goes ahead.

21 WHAT TO TELL US



A FACE · B DEPTH · C FEET · D OVERALL · E WEB ANGLE · t THICKNESS

- A face width, B depth, C feet, D overall width, E web angle (or square webs)
- Thickness t in mils (18 to 97 mil) and the coating
- Length of each piece and the quantity
- Hem or plain feet, and any holes or slots
- A sketch or the detail from the drawings; our Custom Bend Request form lists all of it

22 EXAMPLES OF CUSTOM HAT SECTIONS



STANDARD 087F125	DEEPER	WIDER FACE	DEEP CAVITY	HEAVY
1-1/4" face, 7/8" deep	1-1/4" face, 1-1/2" deep	2" face, 7/8" deep	1-1/2" face, 2-1/2" deep	square webs, wide feet

EXAMPLES ONLY, TO ONE SCALE · ANY HAT SECTION TO YOUR DIMENSIONS

23 WHY A CUSTOM HAT

Deeper
More depth for a deeper cavity, insulation board or services, or to stand a finish further off the wall.

Wider face
A wider face for board joints, cladding fasteners or panel edges that need more steel behind them.

Heavier
Thicker steel and wider feet for longer spans between supports or heavier finishes, by design.

Matched
A profile that matches an existing building, a detail on the drawings or another system on the job.

24 GOOD TO KNOW

Design
A custom section is selected and checked by the design professional for its span, spacing and load. The weights and properties in this data sheet are for 087F125 only.

Certification
Certification covers the members named in our Product Scope Listing. Ask us before relying on it for a custom profile.

WEIGHTS, MATERIAL & TAKEOFF

Approximate weights and properties, steel and coating, fasteners, and two worked takeoffs

25 APPROXIMATE WEIGHTS AND GROSS PROPERTIES (NOT FOR DESIGN)

DESIGNATOR	DESIGN T (IN)	DEVELOPED WIDTH (IN)	AREA (IN²)	IX (IN⁴)	SX (IN³)	LB/FT *	LB PER 12' *
087F125-18	0.0188	4.36	0.082	0.0111	0.0247	0.28	3.3
087F125-33	0.0346	3.95	0.137	0.0171	0.0369	0.46	5.6
087F125-43	0.0451	3.93	0.177	0.0217	0.0468	0.60	7.2

Gross section properties by our own calculation on the centreline, square corners, design thickness, hem included on 18 mil; bending about the axis parallel to the face. For comparison and estimating only. Design uses effective properties to CSA S136 / AISI S100 by the design professional. * Steel at 490 lb/ft³; coating adds a little.

26 MATERIAL

STEEL	ASTM A1003, 33 ksi (230 MPa) minimum yield
COATING	Hot-dip galvanized to ASTM A653: G40 on 18 mil, G60 on 33 and 43 mil
THICKNESS	18 mil (0.018" min.) · 33 mil (0.033" min.) · 43 mil (0.043" min.)
TOLERANCES	Depth 7/8" ± 1/16" · feet 1/2" ± 1/16" · web angle 77° ± 8°
BUNDLES	10 pieces
MATERIAL CERTIFICATES	On request, with the order

27 FASTENERS & TIES

TO MASONRY OR CONCRETE	Concrete nails, screw anchors or power-driven pins through the feet, as the fastener maker rates them
TO WOOD JOISTS	Screws or nails through both feet at every joist
TO STEEL	Pan or wafer head framing screws through both feet
TO CARRYING CHANNEL	Doubled 18 ga tie wire, or a furring clip, at every crossing
BOARD TO THE FACE	Type S drywall screws (ASTM C1002) to 18 and 33 mil; self-drilling screws (ASTM C954) to 43 mil; at least 3/8" past the steel

28 READING THE DESIGNATOR

087F125-18

087	depth: 0.875" (7/8")
F	style code: furring (hat) channel
125	face: 1.25" (1-1/4")
-18	minimum steel thickness in mils

The same S-T-U-F system names our studs (S), tracks (T), U channel (U) and furring channel (F).

29 TAKEOFF EXAMPLES

WALL EXAMPLE · MASONRY WALL 40' LONG × 9' HIGH	QTY	HOW
Channels at 16" o.c. + 1 end	31 pcs	40' × 12 ÷ 16 = 30, + 1
10' lengths, cut to 9'	31 pcs · 4 bundles	one per line; 31 ÷ 10, rounded up
Masonry fasteners at 24" o.c.	186	108" ÷ 24" = 4.5 → 5 spaces, 6 per line × 31
CEILING EXAMPLE · 20' × 30' ROOM, SUSPENDED	**QTY**	**HOW**
Furring at 16" o.c. across 30'	24 lines · 480 LF	30' × 12 ÷ 16 = 22.5 → 23, + 1; × 20'
Add 5% for laps; 12' lengths	42 pcs	480 × 1.05 = 504 LF ÷ 12
Ties at crossings, 5 carrying rows	120	24 lines × 5 rows

Worked with commonly specified spacings and rounded up; your spacings, laps and fastener counts come from the design and the board layout.

INSTALLATION & STANDARDS

General guidance for installers and design professionals

30 TYPICAL INSTALLATION · WALLS

1. Lay out the channel lines from the board layout: commonly 16" or 24" o.c., plus extra lines at corners, openings and board ends as shown.
2. Hold each channel plumb, feet on the wall; shim behind the feet where the wall is out of plane.
3. Fasten through the feet, commonly 24" o.c. on alternate feet, with fasteners rated for the wall.
4. Check the faces with a straightedge, then screw the board to the face only.

31 TYPICAL INSTALLATION · CEILINGS

1. Suspended: hang and level the carrying channel first (DS-10).
2. Run the furring channel across it at the board spacing, feet up against the carrying channel.
3. Tie every crossing with doubled 18 ga tie wire, or clip it; direct-fixed: fasten both feet at every joist.
4. Splice by nesting the ends at least 8" and tying or screwing each end of the lap; stagger the splices.
5. Check level before boarding; board screws go into the furring face only.

General information only; the project documents, the board maker and ASTM C754 / C840 govern.

32 DO & DON'T

DO	fix both feet at every support or crossing, not just one
DO	nest and lap splices rather than butting the ends
DO	support light fixtures, diffusers and heavy items from the structure
DON'T	screw board into the webs or feet, or into the carrying channel
DON'T	cantilever furring past the last support without the design saying so
DON'T	substitute a lighter channel than the one specified or listed

33 STORAGE

Store bundles dry, off the ground and under ventilated cover, flat and supported so the light channel does not bend. Edges are sharp: use gloves and appropriate PPE.

34 STANDARDS

- ASTM C645 · AISI S220 · members
- ASTM A1003 · steel
- ASTM A653 · coating
- ASTM C754 · installation
- ASTM C840 · gypsum board
- ASTM C1002 · C954 · screws
- CSA S136 · design
- CAN/ULC-S101 · ASTM E119 · fire tests
- National Building Code of Canada

35 COMMON QUESTIONS

Is hat channel the same as furring channel?
Yes. 7/8" furring channel is called hat channel for its hat-shaped section, and furring bar on some order sheets. It is the same member, 087F125.

Why is the 18 mil channel hemmed?
Folding each foot edge back 3/16" stiffens the light foot and removes the raw edge for safer handling.

16" or 24" o.c.?
It depends on the board and finish. 16" o.c. is common on ceilings and for 1/2" board; the board maker and the design decide.

Can I tie furring to carrying channel with one wire?
Doubled 18 ga tie wire at every crossing is the common detail; a furring clip may be used where the design allows.

Do you have other sizes?
The standard profile is 7/8" × 1-1/4" face. Other hat sections are offered to order: see Custom hat sections on page 5.

Is it certified?
Our cold-formed framing members are product certified by CISC to CSSBI 61:24; see page 8 for the scope wording.

SPECIFYING & NOTICE

Checklist, submittals, specification guide and certification

36 BEFORE YOU ORDER: CHECKLIST

- Profile: 087F125 (7/8" × 1-1/4" face), or a custom hat with its dimensions
- Thickness: 18, 33 or 43 mil, from the design
- Lengths: 10' or 12'; lines × length + laps
- Masonry fasteners, joist screws or tie wire to suit the support
- Carrying channel and hanger wire for suspended ceilings (DS-10)
- Board screws: Type S or self-drilling to suit the thickness
- Material certificates, if the specification asks for them

37 TYPICAL SUBMITTALS

- Product data for the furring channel, ties and fasteners
- Shop drawings for ceilings: carrying rows, hangers, furring layout and splices
- The listed assembly, where a fire or sound rating applies
- Material test reports, when requested
- Proof of certification for the framing members

38 SPECIFICATION GUIDE

Section 09 22 16, Non-Structural Metal Framing (wall furring), and 09 22 26, Suspension Systems (ceilings). Cold-formed steel furring channel (hat channel), 087F125: 7/8" deep, 1-1/4" face, 1/2" feet, 2-1/2" overall, 18 mil with hemmed feet, or 33 or 43 mil, as shown; steel to ASTM A1003, 33 ksi minimum, hot-dip galvanized to ASTM A653, G40 minimum for 18 mil and G60 minimum for 33 and 43 mil; members to ASTM C645 / AISI S220; Saturn Metal DS-11. Walls: fastened through the feet to masonry or concrete at the spacing shown. Ceilings: wire-tied at every crossing under carrying channel, or fastened to the joists through both feet; splices nested and lapped; installed to ASTM C754, board to ASTM C840.

Certification: our cold-formed framing members are product certified by CISC to CSSBI 61:24. Certification covers only the members named in our current Product Scope Listing; confirm the status of a specific member with us before relying on it.

Related: carrying / bridging / bracing channel DS-10 · resilient channel DS-12 · Angle/L-Track DS-14 · hanger wire DS-15 · tie wire DS-16 · custom bent profiles DS-30.

Technical questions and quotes: +1 (416) 746-8000 · Sales@SaturnMetal.ca · www.SaturnMetal.ca

39 GOES WITH

Carrying channel · DS-10
1-1/2" U channel hung on wire; the furring channel is tied under it in a suspended ceiling.

Tie and hanger wire · DS-15, DS-16
18 ga tie wire for every crossing; 9 and 12 ga hanger wire from the structure.

Angle/L-Track · DS-14
Perimeter support for ceiling board and furring ends at the walls.

Custom profiles · DS-30
Hat sections and other multi-bend profiles to your dimensions.

IMPORTANT NOTICE

This data sheet gives general product information only. It is not engineering, design or installation advice. A qualified design professional must review every application, and the building code and project documents always govern. It does not give allowable spans, loads, limiting heights, fire or sound ratings; those belong to the design and the listed assembly. Section properties shown are gross, approximate and not for design. Drawings are schematic and not to scale unless noted; dimensions are nominal and subject to standard tolerances. Values marked typical, approximate or commonly specified are for reference only. Standards are referenced by name for identification; always use the edition required by the governing code. Saturn Metal may change products and information without notice; confirm current data before ordering or specifying. Warranties and remedies, if any, are only those in Saturn Metal's written terms of sale. Names of standards bodies and certification programs belong to their owners. Saturn Metal is a manufacturer and/or supplier of metal products; this data sheet does not mean that the product shown is manufactured by Saturn Metal. © Saturn Metal