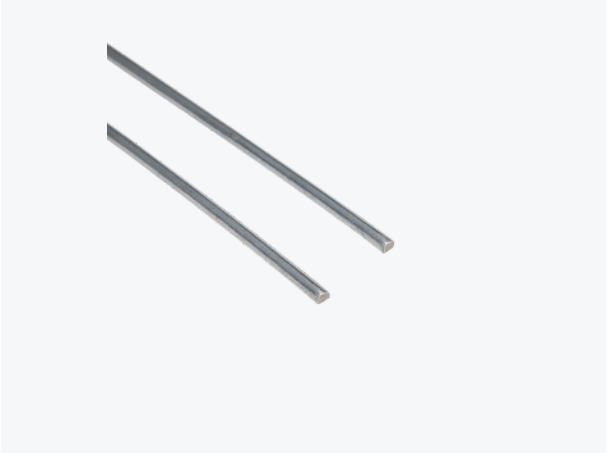
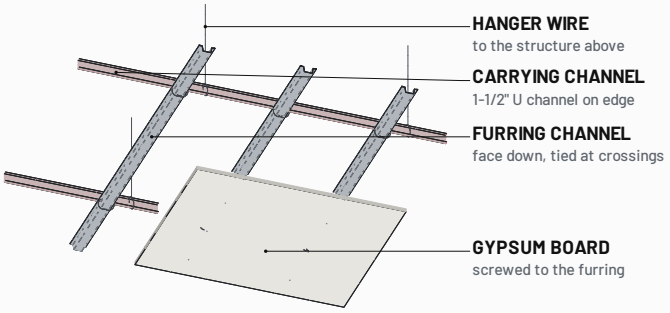
PRODUCT DATA SHEET · DS-15

HANGER WIRE

Galvanized ceiling suspension wire · 9 ga and 12 ga · 12' lengths





PRODUCT 15 · CEILING SUSPENSION

Hanger wire is straight galvanized steel wire that hangs a suspended ceiling from the building structure. Each wire is tied to the slab, joist or deck above and saddle-tied around the carrying channel (U channel) below; the furring channel is then tied across under the carrying channels and the board is screwed to the furring. We offer it in **9 ga** and **12 ga**, cut to **12' lengths** and bundled by gauge.

- 9 ga (0.148") and 12 ga (0.1055") galvanized steel wire
- Zinc coating and diameter to ASTM A641
- Tensile strength range 50,000 to 65,000 psi
- Straight 12' lengths; bundles of 76 (9 ga) and 149 (12 ga), about 53 lb

GAUGES	DIAMETER	LENGTH	BUNDLE	TENSILE	WIRE
9 · 12 ga	0.148 · 0.1055"	12'	76 · 149 pcs	50–65 ksi	ASTM A641

1 FOUR NAMES, ONE PRODUCT

Hanger wire
Our product name: straight galvanized wire that hangs a ceiling from the structure.

Ceiling wire
The common site name, used for suspended drywall, plaster and grid ceilings.

Hang wire
Short form used on takeoffs and orders; the same product.

Suspension wire
The term used in many specifications and design documents.

2 THE PARTS OF A HANGER

1. **Top tie.** looped through an anchor, around a joist chord or through an eye lag
2. **Drop.** the straight, plumb length between the structure and the ceiling
3. **Bottom tie.** saddle-tied around the carrying channel, then twisted tight
4. **Turns.** tight wraps that lock each end; the design and standard set the minimum

TWO GAUGES
9 ga for heavier ceilings, 12 ga for lighter ones

12' LENGTHS
Straight and ready to hang

BUNDLED
76 or 149 pcs, about 53 lb

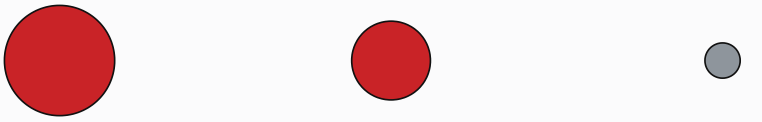
GALVANIZED
ASTM A641 zinc-coated steel wire

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SIZES, MATERIAL & STRENGTH

Computed weights, the tensile range and what it means per wire

3 SIZES DRAWN TO SCALE



9 ga
0.148"
hanger wire

12 ga
0.1055"
hanger wire

18 ga
0.047"
tie wire

CROSS-SECTIONS DRAWN TO ONE SCALE · SAME SCALE FOR ALL THREE

4 DIMENSIONS & WEIGHTS (COMPUTED)

GAUGE	DIAMETER	METRIC	AREA IN²	LB/FT	FT/LB	12' PIECE	PCS/BUNDLE	BUNDLE
9 ga	0.148"	3.76 mm	0.0172	0.0585	17.1	0.70 lb	76	≈ 53 lb
12 ga	0.1055"	2.68 mm	0.0087	0.0297	33.6	0.36 lb	149	≈ 53 lb

Computed from the nominal diameter and a steel density of 0.2836 lb/in^3; the zinc coating is not included. Rounded, for estimating and handling only. Bundle weight = 12' piece × pieces per bundle.

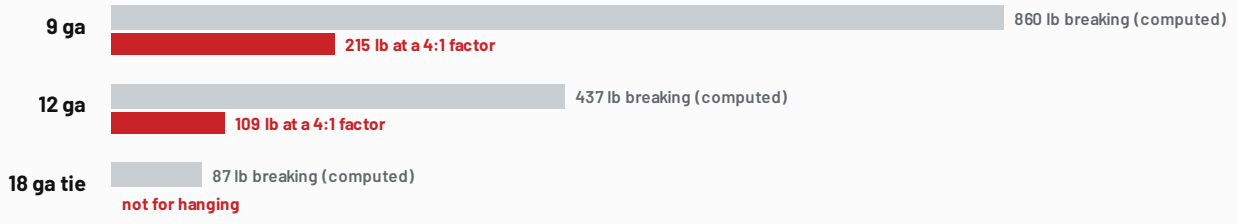
5 MATERIAL

MATERIAL	Carbon steel wire, zinc-coated (galvanized)
STANDARD	ASTM A641 for the zinc coating and the diameter
TENSILE STRENGTH	50,000 to 65,000 psi (range)
FORM	Straight cut lengths, 12'
PACKED	Bundles tagged by gauge

6 STRENGTH (COMPUTED)

GAUGE	BREAKING LOAD, COMPUTED	REFERENCE LOAD AT 4:1
9 ga	860 – 1,118 lb	215 lb
12 ga	437 – 568 lb	109 lb

Breaking load = nominal area × tensile strength, across the 50 to 65 ksi range. Reference load = breaking load at 50 ksi ÷ 4.



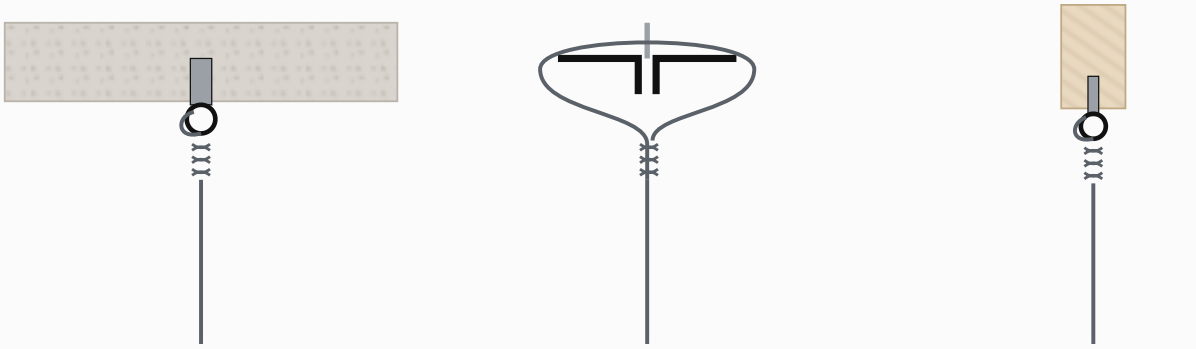
COMPUTED FROM NOMINAL DIAMETER × 50 KSI, THE LOW END OF THE TENSILE RANGE · REFERENCE ONLY, THE DESIGN SETS THE LOAD

Load per hanger. The reference loads are computed for the wire alone. The load a hanger may carry also depends on the anchor or attachment above, the ties at each end, and the governing code and standard. The ceiling designer sets the hanger size, spacing and safety factor; the anchor must be rated for the same load.

INSTALLATION DETAILS

Top attachments, the saddle tie and the layout

7 TOP ATTACHMENTS



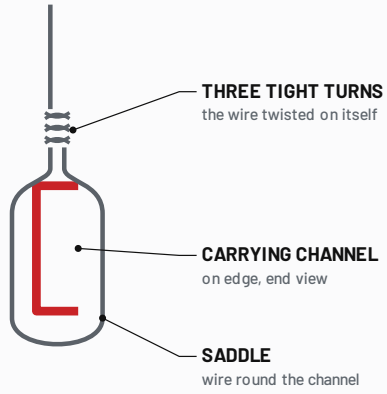
CONCRETE
anchor with an eye, rated for the load

STEEL JOIST
wrapped round the bottom chord

WOOD JOIST
eye lag screw into the joist

AT THE STRUCTURE · EACH WIRE ON ITS OWN ANCHOR · THREE TIGHT TURNS

8 SADDLE TIE AT THE CHANNEL

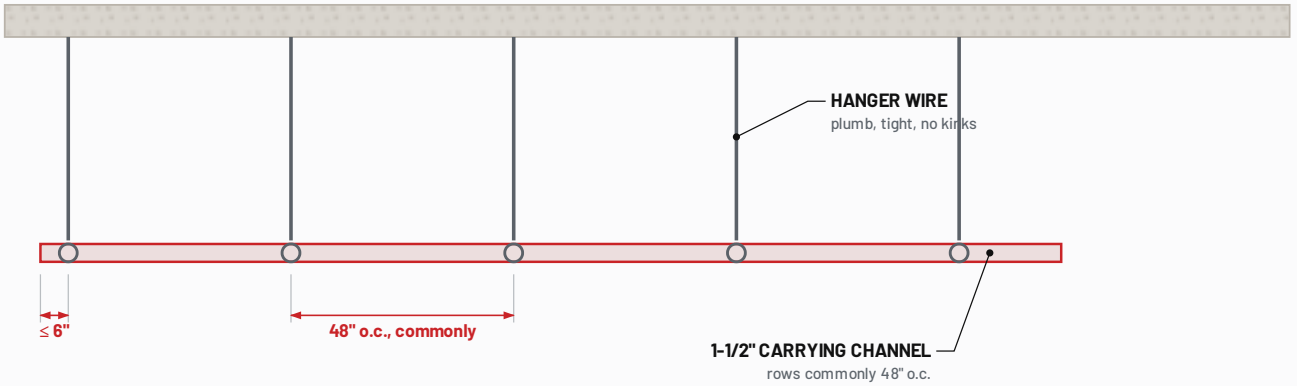


SADDLE TIE AT THE CHANNEL

9 INSTALLING

1. Lay out the carrying channel lines and mark hanger points on the structure at the spacing in the design.
2. Install the top attachment: an anchor rated for the hanger load in concrete, a wrap around a steel joist chord, or an eye lag in wood.
3. Loop the wire through the attachment and wrap it tightly around itself, three turns or the number in the design.
4. Let the wire hang plumb. Where an obstruction is in the way, use a trapeze or a designed offset, not a sloped wire.
5. Set the carrying channel to the string line, saddle-tie the wire around it and wrap it tight.
6. Level at the bottom ties and check again once the furring is on.

10 TYPICAL LAYOUT

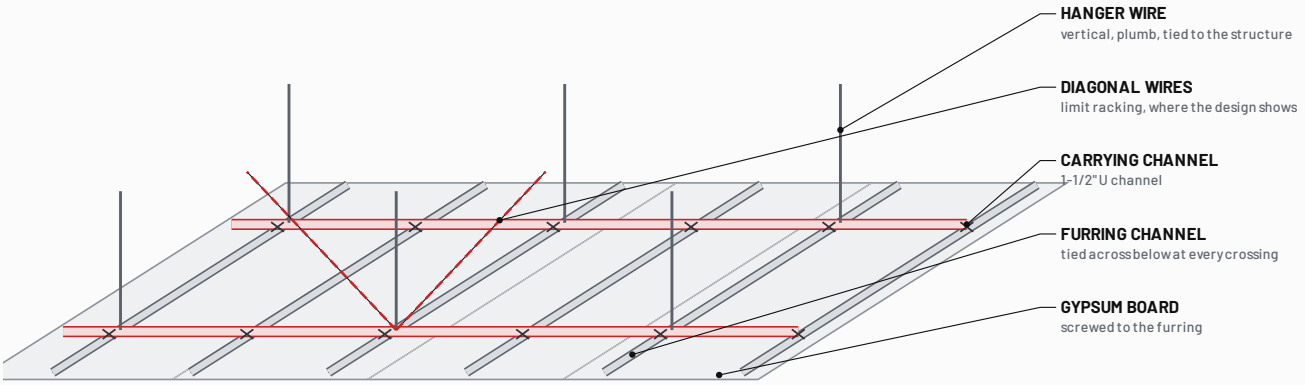


ELEVATION ALONG A CARRYING CHANNEL · COMMONLY SPECIFIED, THE DESIGN GOVERNS

THE CEILING SYSTEM

Vertical and diagonal wires, the ceiling edge and the stud hanger option

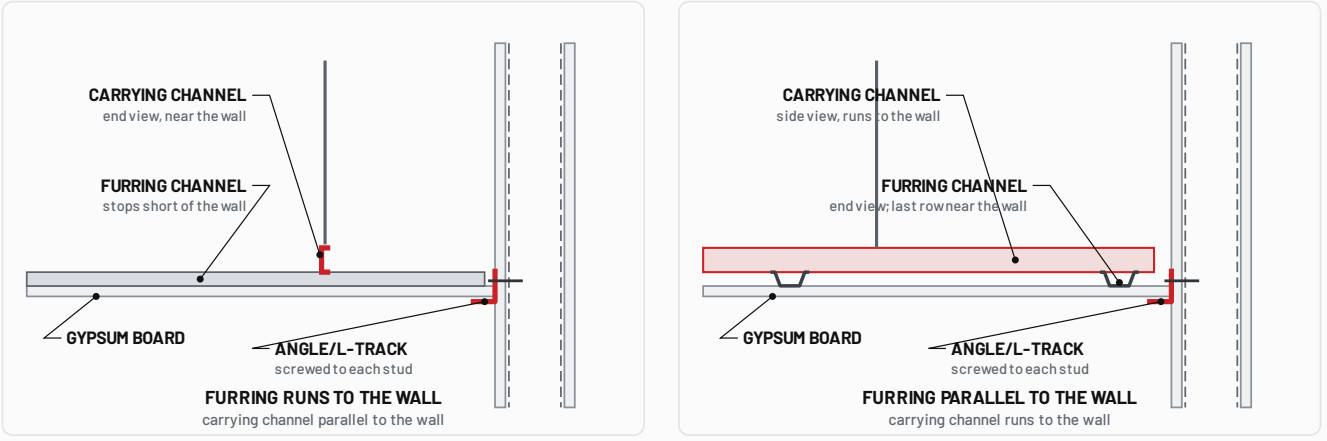
11 HOW THE CEILING HANGS



SUSPENDED DRYWALL CEILING · SCHEMATIC, SPACING AND SIZES BY DESIGN

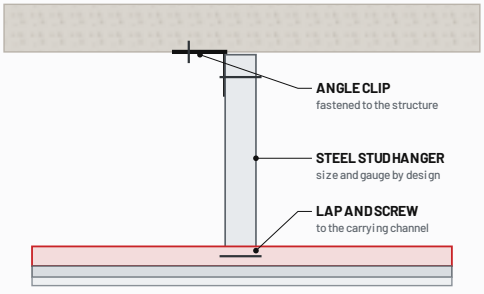
Vertical hangers carry the weight. Where the design calls for them, pairs of diagonal wires at a hanger point keep the ceiling from racking (swaying sideways); they are tied to the channel and to the structure like any hanger. In fire-rated and multi-layer ceilings the furring is wire-tied to the carrying channel at every crossing.

12 AT THE WALLS



CEILING EDGE AT A PARTITION · SECTIONS · CHANNEL AND FURRING DISTANCES FROM THE WALL BY DESIGN

13 STUD HANGER OPTION



WHEN A WIRE WON'T HANG PLUMB

14 CHOOSING A GAUGE

12 ga · lighter ceilings

Single-layer drywall and lighter suspended ceilings, where the design allows the smaller wire at the spacing shown.

9 ga · heavier ceilings

Multi-layer drywall, lath and plaster, wider hanger spacing, or where the design calls for the larger wire.

QUESTIONS, SPECIFYING & NOTICE

Common questions, specification guide and standards

15 COMMON QUESTIONS

Which gauge do I use?
The gauge in the ceiling design. In general, 12 ga for lighter ceilings and 9 ga for heavier drywall and plaster ceilings or wider spacing.

How far apart are hangers?
As the design shows. Hangers are commonly 48" o.c. along carrying channels set 48" o.c., with one within 6" of each end.

What do diagonal wires do?
They keep the ceiling from racking sideways. Use them where the design or the seismic requirements call for them.

Can I hang a light fixture from it?
Only if the design allows it. Fixtures and equipment usually need their own supports.

Is it coiled?
No. It comes straight, in 12' lengths, so it hangs plumb without unwinding.

How many turns at each end?
The number in the design and the governing standard; three tight turns is a common minimum.

16 DO & DON'T

DO	Keep every hanger plumb and tight; check the level with a laser or string line.
DO	Put a hanger within 6" of each end of a carrying channel run.
DO	Use anchors rated by their maker for the hanger load.
DON'T	Hang wires from ducts, pipes, conduit, deck tabs or another trade's supports.
DON'T	Hang lights, ducts or equipment from ceiling hangers unless the design allows it.
DON'T	Kink, nick or splice a wire in the drop; use a new length.

17 SPECIFICATION GUIDE

Hanger wire: galvanized carbon steel wire to ASTM A641, [9 ga (0.148")] [12 ga (0.1055")] diameter, tensile strength 50,000 to 65,000 psi, in straight 12' lengths. Install to ASTM C754 (drywall) or ASTM C841 (lath and plaster) and the ceiling design. Tie each hanger to the structure with an attachment rated for the hanger load, keep hangers plumb, add diagonal wires where shown, and wrap each end tight with the number of turns in the design.

18 STANDARDS

ASTM A641	Zinc-coated (galvanized) carbon steel wire
ASTM C754	Installing steel framing to receive screw-attached gypsum panels, incl. suspended ceilings
ASTM C841	Installing interior lathing and furring
ASTM C636	Installing acoustical ceiling suspension systems

Related: DS-10 carrying channel · DS-11 furring channel · DS-14 Angle/L-Track · DS-16 tie wire
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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. Hanger size, spacing, diagonal wires, the top attachment and any load must come from the ceiling 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 belong to their owners. Saturn Metal is a metal products manufacturer and/or supplier; this sheet does not mean the product is manufactured by Saturn Metal. © Saturn Metal