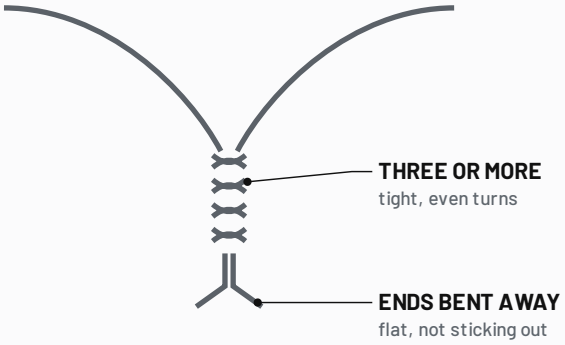
TIE WIRE

18 ga soft annealed galvanized tie wire · cut lengths 27" and 42"





A GOOD TWIST

PRODUCT 16 · CEILING & LATH ACCESSORIES

Tie wire is thin, **soft annealed 18 ga galvanized steel wire**, cut to **27"** and **42"** lengths. In a suspended drywall ceiling it ties the furring channel to the underside of the carrying channel at every crossing. In plaster work it ties metal lath to its channels, ties the laps between sheets, and holds expansion and control joints to the lath. It twists tight by hand or with a tie tool. It is a tying wire, not a hanger.

- 18 ga (0.047") galvanized steel wire, soft annealed
- Zinc coating and diameter to ASTM A641
- Cut lengths: 27" and 42"
- Bundles of about 25 lb

GAUGE	DIAMETER	LENGTHS	TEMPER	WIRE	USE
18 ga	0.047"	27" · 42"	Soft annealed	ASTM A641	Ties, not hangers

1 FOUR NAMES, ONE PRODUCT

Tie wire
Our product name: soft, thin galvanized wire, cut to length for tying.

Cut tie wire
Straight cut lengths, so there is no reel to carry and cut on the ceiling.

Lath tie wire
Site name when it ties metal lath to its channels and supports.

18 ga wire
How it often appears on takeoffs and drawings.

2 FOUR JOBS

1. **Furring to carrying channel.** a saddle tie at every crossing of a suspended ceiling
2. **Lath to its supports.** ties along every channel or support at the spacing in the design
3. **Lath laps.** ties along side and end laps, between the rows of fasteners
4. **Joints and accessories.** expansion and control joints and beads tied to the lath

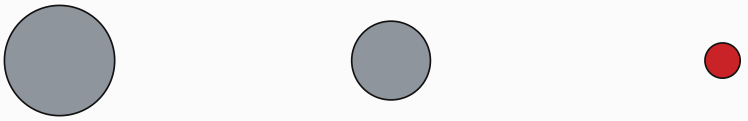
SOFT ANNEALED	27" AND 42"	EVERY CROSSING	NOT A HANGER
Bends and twists tight by hand	Cut lengths, no reel	Furring tied at every crossing	Use hanger wire to hang ceilings

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SIZE, MATERIAL & PROPERTIES

Computed weights, pieces per bundle, and which length to use

3 SIZE 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

Shown at the same scale as 9 ga and 12 ga hanger wire. At 0.047", tie wire has about one tenth of the area of 9 ga hanger wire. That is why it ties members together and is not used to hang a ceiling.

4 DIMENSIONS & WEIGHTS (COMPUTED)

SIZE	DIAMETER	METRIC	AREA IN²	LB/FT	FT/LB	ONE PIECE	PIECES PER LB	PER 25 LB BUNDLE
18 ga · 27"	0.047"	1.19 mm	0.00173	0.0059	169	0.0133 lb	≈ 75	≈ 1,882
18 ga · 42"	0.047"	1.19 mm	0.00173	0.0059	169	0.0207 lb	≈ 48	≈ 1,210

Computed from the nominal 0.047" diameter and a steel density of 0.2836 lb/in³; the zinc coating is not included. Rounded, for estimating only.

5 MATERIAL

MATERIAL	Carbon steel wire, zinc-coated (galvanized)
TEMPER	Soft annealed, for easy tying
STANDARD	ASTM A641 for the zinc coating and the diameter
TENSILE STRENGTH	50,000 to 65,000 psi (range)
BREAKING LOAD	≈ 87 to 113 lb per strand (computed); not for hanging

6 WHICH LENGTH

27" length
Single ties: furring to carrying channel, lath to channels, lath laps and short saddle ties.

42" length
Doubled ties where the design calls for them, and ties around larger members or deeper channels.

7 ORDERING

ITEM	Tie wire, galvanized, soft annealed
GAUGE	18 ga (0.047")
LENGTH	27" or 42"
UNIT	Bundle, about 25 lb

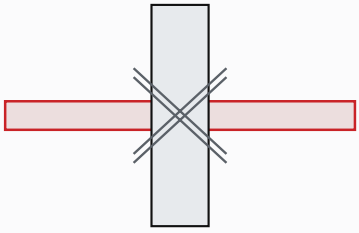
8 ESTIMATING

Crossings = carrying channel runs × furring channel runs. One tie per crossing (doubled where the design calls for it), plus lath ties along every support and lap. A 25 lb bundle of 27" ties covers about 1,880 ties. Add a margin for waste.

INSTALLATION DETAILS

Channel crossings, lath ties and how to twist them

9 TYPICAL TIES



FURRING TO CARRYING CHANNEL
doubled, crossed, at every crossing



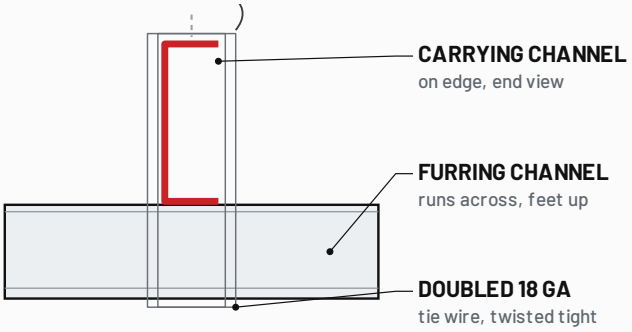
LATH TO CHANNEL
saddle tie through the lath



LATH LAPS
tied between the supports

SCHEMATIC · TIE SPACING AND THE NUMBER OF STRANDS COME FROM THE DESIGN AND THE LATHING STANDARD

10 TIE AT A CROSSING



TIE AT EVERY CROSSING

11 TYING A CROSSING

1. Hang and level the carrying channels first; tie wire only locks the members together.
2. At each crossing, pass the tie around the carrying channel and under the furring face.
3. Where the design calls for a doubled tie, loop the wire twice before twisting.
4. Twist the ends tight by hand or with a tie tool until the furring is firm on the channel.
5. Cut off the tails and bend them up, away from the board or lath face.

12 WHERE TIES GO

Suspended drywall ceiling
Furring channel to carrying channel at every crossing, with a saddle tie (doubled where the design calls for it) or an approved clip.

Lath and plaster
Metal lath tied to every channel or support at the spacing in the design.

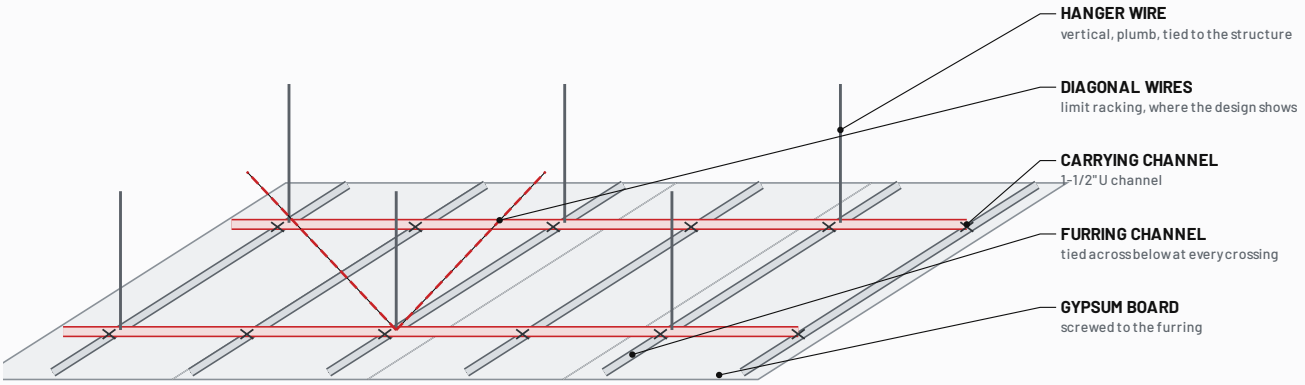
Lath laps
Along side laps and end laps, between the rows of fasteners, so the sheets act as one surface.

Joints and beads
Expansion joints, control joints and beads tied to the lath where the design shows ties.

TIES IN THE CEILING

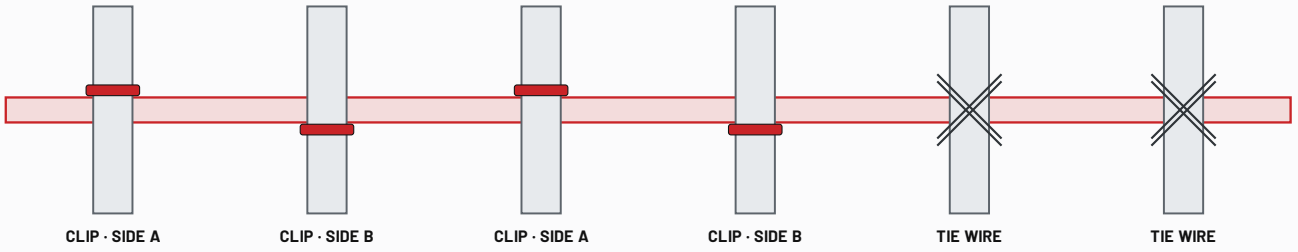
Every crossing tied, clips on alternating sides, and fire-rated ceilings

13 TIES IN A SUSPENDED CEILING



SUSPENDED DRYWALL CEILING · SCHEMATIC, SPACING AND SIZES BY DESIGN

14 CLIPS OR TIES AT THE CROSSINGS



clips change side at every crossing so the furring does not twist one way

where clips won't alternate, tie with 18 ga wire

PLAN · ONE CARRYING CHANNEL, FURRING CROSSING BELOW · USE CLIPS ONLY WHERE THE DESIGN ALLOWS

Fire-rated and multi-layer ceilings. Tie the furring to the carrying channel with wire at every crossing. Use clips in these ceilings only where the tested assembly and the design allow them.

A good tie. Firm enough that the member does not move by hand, with even turns and short tails bent away from the finish face. A loose tie lets the furring twist and shows as a wave in the board; an over-twisted tie thins and may snap.

15 TIES PER 100 FT² OF CEILING (COMPUTED)

FURRING SPACING	CARRYING CHANNEL	TIES PER 100 FT²	DOUBLED	27" WIRE, SINGLE	27" WIRE, DOUBLED
12" o.c.	48" o.c.	25.0	50.0	0.33 lb	0.66 lb
16" o.c.	48" o.c.	18.8	37.5	0.25 lb	0.50 lb
24" o.c.	48" o.c.	12.5	25.0	0.17 lb	0.33 lb

One tie at every crossing of a furring channel and a carrying channel, counted as 100 ÷ (furring spacing × channel spacing in feet). Wire weight uses one 27" piece per tie. Add perimeter, splice and lath ties and a margin for waste; spacings are examples, the design governs.

QUESTIONS, SPECIFYING & NOTICE

Common questions, specification guide and standards

16 COMMON QUESTIONS

Can I hang a ceiling with tie wire?
No. Tie wire is for tying members together. Hang ceilings with 9 or 12 ga hanger wire (DS-15).

Is every crossing tied?
Yes. In a suspended ceiling, the furring channel is tied to the carrying channel at every crossing, or clipped where the design allows.

27" or 42"?
The 27" length covers most single ties. Use 42" for doubled ties and larger members.

Can I use clips instead?
Where the design allows clips, alternate their side from one crossing to the next, and tie with wire where they won't alternate.

17 DO & DON'T

DO	Tie every crossing and twist each tie tight.
DO	Turn the tails up and away from the board or lath face.
DO	Keep the bundles dry and use wire that is not bent or nicked.
DON'T	Use tie wire as a hanger or to carry any fixture.
DON'T	Over-twist a tie until it thins and breaks; stop when it is firm.

18 SPECIFICATION GUIDE

Tie wire: 18 ga (0.047") soft annealed galvanized carbon steel wire to ASTM A641, tensile strength 50,000 to 65,000 psi, cut to [27"] [42"] lengths. Tie furring channels to carrying channels at every crossing, and tie lath, laps and joints as required by ASTM C754, ASTM C841 and the ceiling design. Not for use as hanger wire.

19 STANDARDS

ASTM A641	Zinc-coated (galvanized) carbon steel wire
ASTM C754	Installing steel framing to receive screw-attached gypsum panels
ASTM C841	Installing interior lathing and furring

Related: DS-10 carrying channel · DS-11 furring channel · DS-15 hanger 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. Tie spacing, doubling and any clip in place of a tie 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