



T-Armor Series™

Structural Standing Seam Roof System

Build with the world's finest structural
standing seam roof system.

Be inspired.

ms metal sales™
manufacturing corporation

Inspired to elevate performance and aesthetics in roofing

T-Armor Series™ structural standing seam roof system from Metal Sales™ achieves a new pinnacle in long-term performance, installation ease and design flexibility.

Whether for new construction or retrofit, T-Armor Series delivers inspired solutions in standing seam metal roofing.

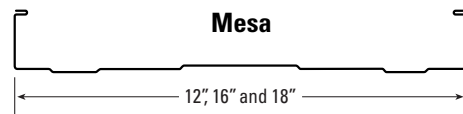
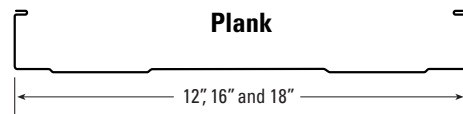
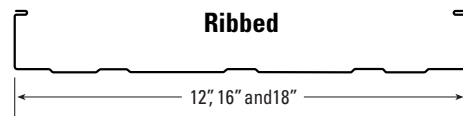
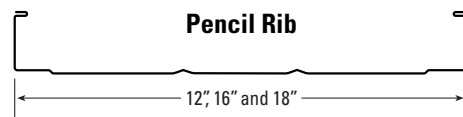
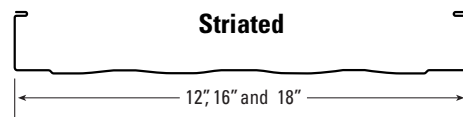
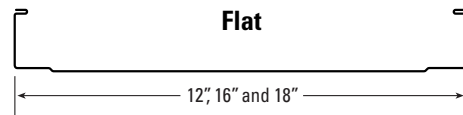
With its revolutionary concealed clip design, T-Armor Series provides stronger panel-to-support engagement without sacrificing the thermal movement capability of roofing panels for greater resistance to environmental loads. With four fastening points per clip, T-Armor Series roof panels may require fewer clips than alternative roof systems, speeding installation and saving money.

For roofs or roof areas susceptible to extreme high winds or snow loads, T-Armor Series roof system also offers an optional continuous concealed clip, which can span the entire length of a roof panel. This clip's long length can provide far greater contact area for both panel-to-clip and clip-to-support engagement, which translates to even greater wind uplift resistance and increased load carrying capability.

Where performance, ease of installation and aesthetics matter most, choose T-Armor Series roof system by Metal Sales.

Design Flexibility

- ▶ Available in six panel profiles, three panel widths, three gauges of steel and two thicknesses of aluminum – the largest selection in the industry
- ▶ Factory and on-site curving options for dynamic roof designs



Materials: Steel and Aluminum

Thicknesses: Steel: 24, 22, 20 ga.
Aluminum: 0.032", 0.040"

Finishes: PVDF (Kynar 500®)
AZ55 Galvalume®
Bare Aluminum

Minimum roof slope: 1/2 : 12

Note: 16" panels shown. Other profiles are similar. 24" panel width and 3" rib height also available.

Features and Benefits

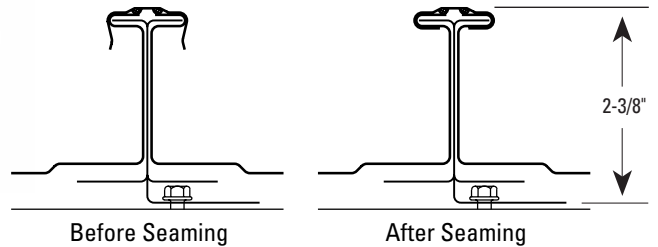
One-Piece Direct-Fastened Concealed Clip

- ▶ Newly engineered for faster installation.
- ▶ Provides up to four fastening points for superior resistance to wind loads.
- ▶ Creates stronger panel-to-support engagement while permitting unimpeded thermal movement of roofing panels of any length.



Dual-Sealed Seam Cap

T-Armor panels are not joined together by interlocking legs, but with a sealed seam cap. Factory-applied sealant beads on each side of the cap create a continuous weathertight seam the full length of the panel.



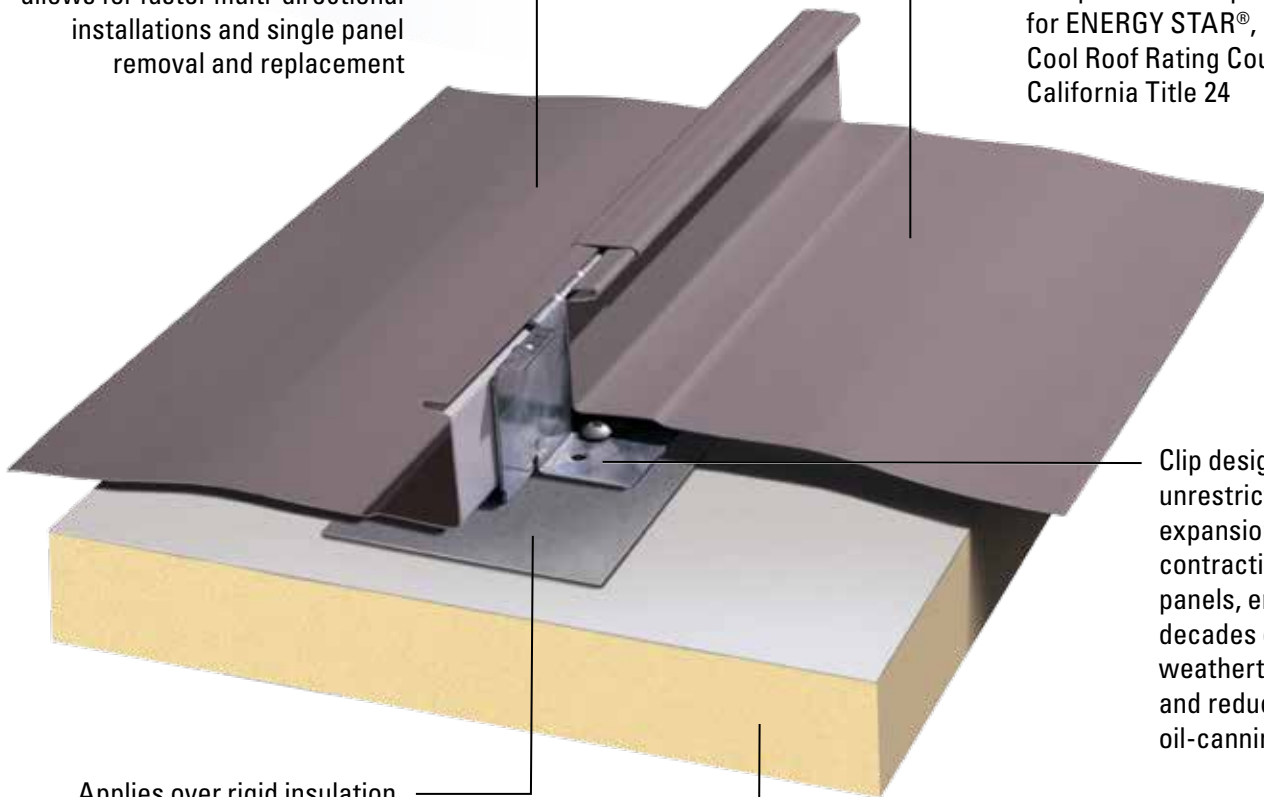
Symmetrical profile with identical vertical legs and mechanically seamed cap allows for faster multi-directional installations and single panel removal and replacement

Cool pigment technology in superior PVDF coating systems delivers SRI values that meet steep and low slope requirements for ENERGY STAR®, LEED®, Cool Roof Rating Council and California Title 24

Clip design permits unrestricted thermal expansion and contraction of roofing panels, ensuring decades of weathertightness and reduced risk of oil-canning

Applies over rigid insulation with bearing plate, open framing or solid substrate, including those with lower pull-out strengths (plywood or OSB) and still achieves exceptional wind load resistance

Panel system accommodates 1" to 6" rigid board insulation or 1/2" to 6" thick blanket insulation to meet or exceed project requirements and today's stringent energy codes



Simply Sustainable

Metal Sales is committed to advancing sustainable design, including architectural strategies toward greater energy efficiency, LEED® certification, Net-Zero building, Cool Roof Rating Council certification and meeting the rigorous standards of the International Living Future Institute.

Our portfolio of durable products containing recycled and recyclable material is ideal for use in high performance buildings, whether new or retrofit. Metal Sales products optimize energy efficiency, minimize construction waste and provide the most sensible platform for renewable energy technology and rainwater harvesting systems.

Metal Sales products are materially efficient, promote resource optimization and divert waste from landfills.

T-Armor Series™ panels offer a host of sustainable benefits including:

- ▶ Made from 100% recyclable material
- ▶ Contains up to 30% recycled content
- ▶ Cool pigment technology in superior PVDF coating system delivers SRI values that meet steep and low slope requirements for ENERGY STAR®, LEED®, Cool Roof Rating Council and CA Title 24
- ▶ Metal Sales Galvalume® finish is Living Building Challenge Red List Free



Testing & Compliance

TEST CATEGORY	TEST PROTOCOL	DESCRIPTION
FIRE	UL 790	Class A roof covering over noncombustible deck or framing or with fire barrier over combustible materials
	ASTM E 84	Flame spread
STRUCTURAL	UL 580	Class 90 uplift roofs over steel purlins, 5/8" plywood or 22 ga. steel deck
	ASTM E 1592	Uplift load resistance for a range of thicknesses, widths, and heights
	ASTM E 1592	Gravity load resistance (Dead Load, Live Load and Snow Load)
	ASTM E 330	Load resistance
WATER LEAKAGE	TAS 100	Wind driven rain, specimen subject to 110 mph wind with 8.8 inches/hour of water spray with no leaks
	AAMA 501.1	Water penetration under dynamic pressure
	ASTM E 1646	Water penetration of exterior metal roof panel system
	ASTM E 331	Water penetration of exterior curtain wall
AIR LEAKAGE	ASTM E 1680	Air leakage through exterior metal roof panel system
	ASTM E 283	Air leakage through exterior curtain wall
THERMAL MOVEMENT	Cyclic Movement	Clip and seam progressed through 100,000 two inch movement cycles
IMPACT	ICC 500	Large missile impact – Design and Construction of Storm Shelters
	FEMA 361	Large missile impact – Design and Construction Guidance for Community Safe Rooms
	ASTM E 1996	Large missile impact with cyclic wind pressure testing
	ASTM E 1886	Large missile impact with cyclic wind pressure testing
	TAS 201, 203	Large missile impact with cyclic wind pressure testing

NOTE: The above tests were conducted on various T-Armor Series products; not all products have been tested per all tests. Please visit metalsales.us.com for additional information and/or consult our Technical Services team about specific products and test results. It is the responsibility of the customer to verify compliance with local, state and national requirements, for project plans and specifications.



Be inspired.



metalsales.us.com 800.406.7387

