Technical Overview

Thermal Shield Adhesive Backed Gold Heat Reflective Sheet

Peel-and-stick radiant heat barrier sheet for under-hood panels, firewalls, and compact thermal zones.

Radiant heat reflection	Up to 90% (reflective face toward heat source)
Radiant heat resistance	800°F
Adhesive temperature limit	325°F at bond-line (surface under sheet)
Construction	Metallized gold polymer film laminated to fiberglass cloth with high-temperature PSA backing

Product purpose

This adhesive-backed gold reflective sheet is designed to reduce radiant heat soak on adjacent panels and components. It is typically applied to clean, stable substrates where radiant heat is the dominant transfer mechanism. For best performance, install with the gold reflective face oriented toward the radiant heat source.

Typical applications

- Firewalls, bulkheads, and transmission tunnels
- Under-hood panels, inner fenders, and service access panels
- Engine covers and heat-sensitive compartment walls
- Localized hot zones near exhaust routing where a thin reflective layer is preferred

Engineering note: Adhesive-backed products are typically limited by bond-line temperature. Maintain clearance, airflow, and panel temperature control to keep the adhesive interface within its rating.

Construction and material design

The sheet combines a metallized gold reflective film with a fiberglass cloth reinforcement layer and a high-temperature pressure-sensitive adhesive (PSA) backing. This construction provides a practical balance of reflectivity, dimensional stability, and installation speed for constrained spaces.

Temperature guidance

- Radiant Heat Resistance: 800°F (radiant exposure)
- Adhesive Heat Resistance: 325°F (bond-line temperature at mounting surface)
- Ambient exposure capability: designed for constant ambient temperatures up to 1,100°F and intermittent ambient temperatures up to 2,000°F (application dependent)

Installation guidelines

- Prepare: clean and dry; remove oil/grease, dust, and loose coatings.
- Fit: test-fit and cut; radius corners to reduce lift initiation.
- Apply: peel liner gradually; press/roll firmly from center outward to avoid trapped air.
- Orient: gold reflective face toward the radiant heat source.
- Reinforce edges: add sealing or mechanical retention in high vibration or splash zones as required.

Available sizes (part numbers)

Part No.	Size	Part No.	Size
271212	12 in x 12 in	271224	12 in x 24 in
271270	12 in x 50 in	271818	18 in x 18 in
272424	24 in x 24 in	272448	24 in x 48 in
272640	26 in x 40 in	273658	36 in x 58 in
274036	40 in x 36 in	274050	40 in x 50 in

Failure modes and risk control

Edge lift / corner peel

Typical causes: Sharp corners, insufficient pressure, vibration, airflow at leading edges, contamination at edges.
Risk control: Radius corners; press/roll firmly; avoid exposed leading edges; add edge sealing or mechanical retention where required.

Adhesive softening / debonding under heat

Typical causes: Bond-line temperature exceeds adhesive rating; heat source too close; insufficient airflow; hot substrate.
Risk control: Control bond-line temperature within adhesive rating; increase clearance or air gap; improve airflow; use mechanical retention if needed.

Oil / coolant / chemical contamination

Typical causes: Residual oil/grease, coolant residue, aggressive cleaning chemicals, ongoing fluid splash (often at edges).
Risk control: Degrease and dry; avoid uncured coatings; protect edges in splash zones; verify chemical compatibility for solvent-cleaned areas.

Blistering from trapped air

Typical causes: Fast application without pressure, rough/dirty substrate, low install temperature reducing adhesive wet-out.
Risk control: Apply gradually; press/roll from center outward; install at practical ambient temperature; ensure smooth, clean substrate.

Abrasion / scuffing of reflective face

Typical causes: Contact with hoses/wiring, service abrasion, vibration-driven rubbing.
Risk control: Maintain clearance; secure adjacent harnesses/hoses; avoid placement where maintenance contact is unavoidable.

RFQ information checklist

- Application location and layout (firewall / bulkhead / under-hood panel / other)
- Heat source type and clearance (mm/in)
- Peak temperatures and duty cycle (continuous or intermittent)
- Mounting substrate material and coating type (if known)
- Fluid exposure (oil/coolant/fuel/water) and vibration level
- Required size (part number or L x W), quantity, and format (sheet / custom cut / die-cut)

Reference

Product page: bstbraidedsleeve.com/.../gold-heat-reflective-sheet_p48.html
Engineering disclaimer: Final performance depends on design integration, surface preparation, and real bond-line temperature conditions.