



TECHNICAL PRODUCT DATA SHEET

TECHNICAL DETAILS

WIDTH $\pm \frac{1}{8}$ "
13 $\frac{3}{4}$ " [337 mm]

LENGTH $\pm \frac{1}{4}$ "
38 $\frac{7}{8}$ " [0.99 m]

EXPOSURE
5 $\frac{5}{8}$ " [143 mm]

GRANULE ADHESION
0.35 g [typical results]

SHINGLES/SQUARE
66 [3 bundles/square]

SQUARES/PALLET
16

TEST COMPLIANCE

ASTM D7158 CLASS H

ASTM D3462 ASTM D3161 CLASS F

ASTM D3018 TYPE I

ASTM E108 CLASS A FIRE RATING

UL 2218 CLASS 3 CSA A123.5

ICC APPROVAL - ESR-3150

ICC-ES AC438



See page 2 for solar reflectance technical data.

FEATURES & BENEFITS

- Solar reflective shingle colors
- Sustainable NEX[®] asphalt technology
- Superior granular embedment and tear resistance
- Larger nailing area of The Zone[®]
- Double rain seal protection
- 3M[™] Smog-Reducing Granules



Effective 08/25
Supersedes all previously published data.

Check for most current version at
WWW.MALARKEYROOFING.COM

PRODUCT USE

245 Highlander[®] Cool is a solar reflective, laminated architectural shingle fortified with sustainable NEX[®] polymer modified asphalt technology for enhanced granule adhesion and increased weather protection. Highlander[®] Cool also features the patented, nailing accuracy design of The Zone[®] which dramatically improves correct fastener placement. Highlander[®] Cool shingles have measured radiative property values listed with the Cool Roof Rating Council and can be used to comply with California Energy Code Title 24, Part 6 Cool Roof Requirements and Los Angeles County, California Title 31 Cool Roof Requirements. Please consult Malarkey's Technical Services Department for approval of roof systems.

COMPOSITION & MATERIALS

Highlander[®] Cool is manufactured on a non-woven fiberglass mat and impregnated on both sides with NEX[®] polymer modified bitumen [asphalt] that is compounded with a fire-retardant mineral stabilizer. It's surface incorporates an innovative combination of ceramic granules that provide varied color, weatherability, increased solar reflectance, and even smog reduction.

APPLICATION

Shingles should be applied over a Malarkey underlayment or an approved, code-compliant substitute. Installation instructions, in three languages, are available on the shingle wrapper by scanning the corresponding Quick Response [QR] code, on our website at WWW.MALARKEYROOFING.COM, or by contacting your local Malarkey representative. Industry standards are found in NRCA manuals. Shingles should be attached to decking with approved fasteners, and Malarkey recommends the use of corrosion-resistant nails for this purpose. Staples are not allowed.

PRECAUTION

For best results, Malarkey recommends Highlander[®] Cool shingles be protected from the weather and stored in a cool, dry, well-ventilated area until applied. Do not double-stack pallets. Do not use on roofs where the slope is less than 2:12 [2" [51 mm] per 12" [305 mm]]. For slopes 2:12 up to 4:12 [4" [102 mm] per 12" [305 mm]], a double layer of underlayment is required [IBC & IRC have an exception for a single layer of ASTM D1970 underlayment in lieu of a double layer]. Highlander[®] Cool shingles have a factory-applied, self-sealing strip that activates in warm weather. When applied in cold weather or windy locations, hand-sealing is recommended but not required if sealant activates. On slopes greater than 21" [533 mm] per 12" [305 mm], hand-sealing underneath and six nails are required. Contact Malarkey for further conditions and instructions.

WARRANTY

Malarkey Roofing Products[®] offers various warranties to meet specific requirements. The warranty packages available for Highlander[®] Cool include a Limited Lifetime Warranty, a 110 mph [177 kph] Limited Wind Warranty, and can be combined with other Malarkey products for a 130 mph [209 kph] Enhanced Wind Warranty. Contact your roofer, local distribution center, or Malarkey for full details. See below for TECHNICAL ASSISTANCE contact information.

Highlander[®] Cool and other Malarkey products are available throughout North America and Pacific Rim countries. Visit WWW.MALARKEYROOFING.COM for additional product information and availability.

Note: Malarkey Roofing Products[®] Inventory SKU number for this product: 245 Highlander[®] Cool

TECHNICAL ASSISTANCE:
Malarkey has technical services assistance available.

Contact Malarkey for details:
Call weekdays 7:00 am to 5:00 pm Pacific Time at
800-545-1191 or 503-283-1191.

malarkey.technicalinquiries@amrize.com

CORPORATE OFFICE:
3131 N. Columbia Blvd. Portland, OR 97217-7472
P.O. Box 17217 Portland, OR 97217-0217

TELEPHONE:
503-283-1191 or 800-545-1191

FAX: 503-289-7644





TECHNICAL PRODUCT DATA SHEET



HIGHLANDER[®] COOL

NEX[®] Polymer Modified Solar Reflective Architectural Shingles

SOLAR REFLECTANCE TECHNICAL DATA

Highlander[®] Cool is listed with the Cool Roof Rating Council.

Highlander[®] Cool has tested to these radiative property values:



Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.

Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.

	HIGHLANDER [®] COOL [BURLWOOD]		HIGHLANDER [®] COOL [MOONLIT BLACK]		HIGHLANDER [®] COOL [RIVERSTONE GREY]		HIGHLANDER [®] COOL [WILLOW WOOD]	
	INITIAL	WEATHERED	INITIAL	WEATHERED	INITIAL	WEATHERED	INITIAL	WEATHERED
SOLAR REFLECTANCE	0.21	0.21	0.20	0.20	0.20	0.20**	0.20	0.20
THERMAL EMITTANCE	0.91	0.94	0.92	0.92	0.92	0.92**	0.92	0.92
SOLAR REFLECTIVE INDEX [SRI]	20	22	20	20	20	20**	20	20
Related Product ID Licensed Manufacturer ID: 0850 Classification: Production Line	0850-0057		0850-0066		0850-0067a		0850-0028	

** Calculated using California Energy Commission SRI Calculator Worksheet

CALRECYCLE

Thanks in part to a grant from CalRecycle, Malarkey's use of polymers from upcycled materials has diverted 583,331 tires from landfills.

