

TECHNICAL PRODUCT DATA SHEET

HIGHLANDER-CS™ LAMINATED SHINGLES
Featuring the Scotchgard™ Algae Resistant Roofing System from 3M™

PRODUCT DESCRIPTION

Product Use: Malarkey Roofing Products (Malarkey) Highlander-CS™ laminated asphalt shingles are used whenever an architectural laminated design is desired. These shingles are designed for a 5-5/8" exposure. The Highlander-CS is manufactured using the Scotchgard™ Algae Resistant Roofing System from 3M™ that prevents unsightly stains from the algae growth on the roofing granule surface of the shingle.

Precautions: Highlander-CS require dry storage or plastic-covered storage and protection from the weather until applied. Do not use on roofs where the slope is less than 2". For slopes 2" to 4", additional deck protection is recommended. Highlander-CS laminated shingles have a factory applied self-sealing strip that activates in warm weather. When applied in cold weather or windy location, hand-sealing is recommended but not required if sealant activates and the shingles seal. Contact Malarkey for further conditions and instructions.

Composition and Materials: Highlander-CS shingles are mineral-surfaced and self-sealing, made with the Scotchgard™ Algae Resistant Roofing System from 3M™ and self-sealing, made with asphalt coating and fire-retardant fillers on a Malarkey fiberglass mat, and feature the exclusive design of **The Zone™**.

TECHNICAL DATA

Highlander-CS is available in 6 standard colors
Typical Average Properties:

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| Approximate Weight | 242 lbs. (111.13 kg) per square |
| Dimensions: | 13-1/4" (± 1/8") x 40" (± 1/4") (.33 m x .990 m) |
| Exposure: | 5-5/8" (142.9 mm) |
| Shingles per square: | 64 shingles (4 bundles/square) |
| Granule Adhesion: | Max. 1.0 gram loss |
| Fire Rating: | Class 'A' |
| Warranty: | 30-year Limited Warranty 20-year Limited Algae Warranty |

Highlander-CS meets or exceeds ASTM D 3018 Type I, ASTM D 3161-97 Type I modified to elevated wind speeds, ASTM D 3462, CAN/CSA A 123.51998 and ASTM E 108 Class 'A'. Please contact Malarkey for further details.

APPLICATION PROCEDURE

All shingles should be applied over underlayment, Malarkey Right Start UDL™ or an approved substitute. Shingles must be attached to decking with approved fasteners, comply with printed instructions on the bundles and be applied to industry standards contained in NRCA or ARMA manuals. Malarkey recommends fastening the shingles with approved nails. For specific installation instructions, consult Malarkey.

WARRANTY

Highlander-CS laminated shingles carry a 30-year limited warranty, a 70 m.p.h. (113 k.p.h.) limited wind warranty and a 20-year limited algae resistance warranty. Documents may be obtained from your roofing contractor, local distribution center or Malarkey. Deviations from Malarkey printed application procedures may affect warranty coverage.

TECHNICAL SERVICES

Malarkey has technical services assistance available. Contact Malarkey for details at (800) 545-1191 or (503) 283-1191; Weekdays 7:00 a.m. to 5:00 p.m. Pacific Time.

AVAILABILITY

Malarkey Highlander-CS shingles are available throughout North America and Pacific Rim countries. Visit www.MalarkeyRoofing.com for additional product information and availability.