“The four Kaja tents performed extremely well in outrageously harsh conditions. Our first night at Camp II the wind blew well over 60 mph all night, burying the tent pitched on the face several times and scouring my tent on the exposed ridge. The Kajas held up incredibly well and were dry, warm and comfortable the next day (as if holing up in a tent at 23,000’ with a 60+ mph wind is comfortable). A Kaja on the ridge at Camp II was left standing up for the rest of the expedition – nearly a month longer! The jet-stream blew early on the Face this season and the Kaja withstood 50-150 mph winds nearly every day, all day. Stability is beyond excellent. We never “double-poled” the tents and never had any poles break or bend. The number and location of the tie-downs is perfect. And we really liked the vestibule’s configuration, double zipper and ease of entry. The headroom and length were perfect! If I ever need to rely on a tent to stand up to severe wind, snow and cold, I will again turn to Garuda tents. They are without a doubt the strongest and best built tents I have ever used up high – one of the finest high altitude mountaineering tents ever created!”

Tony Lewis, Expedition Leader, Razor’s Edge Expedition, Everest 1994

When Garuda™ started in 1990, I had one objective – deliver the benefits of single-wall design in more versatile shelters. In the process of using and building numerous tents by hand since 1983, I knew that traditional single-wall concepts could be advanced by incorporating functional ventilation and features as core architectural elements. To extend beyond the minimalist, gimme-basic-shelters of the past, Garuda selectively integrates the desirable characteristics of single-wall construction with performance oriented convenience features. Our models structurally incorporate vestibules, storage, strategic vents, windows, and doors. By carefully coordinating all these features, Garuda extends the performance and comfort of single-wall designs to a wider range of climates.

“Seattle-based Garuda is bringing about a resurgence in single-wall tents.”

Backpacker

The result is a line of meticulously crafted, lightweight tents designed to balance versatility, efficiency, and sound dependability, with a preference for usable ergonomics. From our waterproof/breathable single-wall construction to refined architecture, Garuda utilizes the most appropriate technologies and advanced materials to pioneer the new alternative in tents. From the high camps of K2 and Everest to the Olympic rainforest and Alaskan coast, over five years of field use have proven the concepts, technology and tents.

At Garuda we have developed our own construction techniques to sew each tent in our Seattle shop from American-made textiles. We don’t “farm out” any of our manufacturing to independent subcontractors or home sewers. We perform each and every step of assembly under one roof, insuring the precision, care and quality control our customers have depended on in the field. Feel free to call with your tent questions - we will have the answers.

Byron Shutz
Ventilation = Versatility

The Garuda advantage begins with our exclusive ByroTex™ canopy material developed specifically for us, a three-layer waterproof/breathable fabric laminate. Years of textile research and prototype field testing focused our requirements for the canopy’s characteristics: dependably weatherproof, light weight, compact, and superior performance – to deliver the benefits of single-wall design in tents with a priority on ventilation, comfort, and functional characteristics.

Because ventilation is the key in a versatile tent design, careful attention has been given to maximize the flow-through air pattern in each tent. Low rear vents draw in cool, drier air, and peak vents provide a natural escape for rising warm air. Moisture generated in the interior may be quickly removed before it can condense on the canopy. All vents are generously hooded for protection against the elements, while also maximizing unhampered airflow and exterior visibility – you don’t have to be sealed in a shell without adequate ventilation or a view.

The breathability of ByroTex is achieved through hydrophilic chemistry: water-attracting hydrogen groups within the polymer chain of the coating molecularly transport the moisture condensed on the interior surface to the exterior side. The laminate is constructed of three components, a highcount ripstop nylon, the hydrophilic breathable coating, and Nexus®. The breathable coating and Nexus, a fuzzy polyester layer on the interior that readily absorbs and distributes moisture, work together to diffuse and wick condensation to the exterior as well as allow for re-evaporation through ventilation. And because we prioritize ventilation over the dependence on a canopy material to minimize potential condensation, ByroTex can readily emphasize reliable waterproofness with a very waterproof minimum rating of 70 pounds per square inch.

Garuda’s protected ventilation system handles the moisture overload when climatic conditions inhibit the canopy from transmitting excess moisture (i.e., in humid, balmy weather, or when the exterior canopy surface simply becomes saturated), unlike traditional single-wall tents that historically depend on microporous canopies and closed-up designs. Traditional PTFE tent canopies are dependent on maintaining a warmer interior temperature differential in order to activate its breathability and to maintain its waterproofness. A synthetic textile does not perform like living skin – the more systematically efficient a tent fabric is at transporting moisture, the less likely it will dependably and invariably maintain its waterproofness.

ByroTex is strong, waterproof, windproof and stretch-resistant. For added safety and versatility, all Garuda tent fabrics are certified CPAI-84 Flame-resistant – the first Nexus-lined single-wall tents to do so on the market in 1991.

While our tents are based on time-tested architectural principles, computer-aided-design (CAD) is used to merge these fundamental shapes with the advantages of current single-wall technology. The parabolic and modified-hoop designs provide an evenly stressed canopy with internal pole construction, allowing for more headroom and a longer, tapered floor area, dedicating less weight to poles and fabric. The frames on the dome models also take advantage of tapered, asymmetrical configurations to disperse stress and efficiently maximize interior space where needed.

To direct and control canopy tension, patterns have precise catenary cuts. Carefully fashioning the tents to eliminate excess fabric leaves little slack to sag, flap or billow in the wind. Structurally integrating the vestibules and vent cones significantly tensions the tent and disperses stress throughout the canopy shell. With the rear cone anchored windward, the tapered canopies spill the wind, resist buffeting, and actually increase in tautness as gusts force the tent down over its frame. Tent anchor systems employ an elastic tensioning anchor to draw and keep the tent tight against its other static anchors. While all our tents require only three anchors for structural stability, we’ve positioned tie-out webbings at corners and key points for additional anchoring in stormy conditions.

"(Having used other single-wall tents since the late 1970s) I fully expected to wake up in a puddle in Patagonia. But lo and behold, I was bone-dry the next morning despite the continuing drizzle."

Michael Kennedy
Climbing, October 1994
Trikaya
(Tre'kai'ya)

F O U R S E A S O N + T H R E E P E R S O N

Demand over the years for a three-person mountaineering dome guided the development of the Trikaya. This bomber tent comfortably shelters three people and all their gear on long, demanding trips. For an ergonomically spacious living area, four color-coded poles support the asymmetrical tent body over a rectangular floor. A fifth colored pole supports the large, integrated, dual-vented front vestibule. The steeply angled rear tension cone forms a vestibule covering the rear door and distributes canopy tension.

A simple slit vent is integrated into each of the side canopy tie-outs and is weather protected by the tension panel. These low center vents, along with rear door vent, draw in dry air to exhaust moist air out peak vents into the vestibule areas. A wide door on each end backed with a No-See-Um netting window provide controlled foul-weather access and ventilation. Four large netting pockets and abundant hangloops add convenience. The Trikaya may also be pitched for 3-season use with just four poles: leaving the rear pole home saves 8 ounces.

Floor Area
42.5 sq. ft.
Vestibule Areas
12.5 sq. ft. (front)
4.0 sq. ft. (rear)
Trail Weight
8 lb., 0 oz.
including tent, poles, anchor webs and
3 Easton stakes
Poles
5
Packed Size
Tent - 14 x 12 x 5
Poles - 21 x 3 x 3
Custom
Ground Cover
is optional

"The advantages of single-wall designs over the traditional canopy with a separate rainy layer are considerable. So how can one layer give you all this protection? It is achieved through a high-tech laminate called ByroTex. This fabric is a hydrophilic polymer, 15 microns thick, laminated between ripstop and a polyester Nexus. The keyword is hydrophilic, which means that it transmits water through it by virtue of its own chemistry, without pores. As a result, its performance is not limited by clogged pores from dirt, and is less dependent on a temperature differential to work."

Couloir, October 1994

F O U R S E A S O N + T W O P E R S O N

This mountaineering dome for two people and their gear incorporates Garuda's trademark features - light weight, ventilation, dependability, easy pitching and strength. Three intersecting poles create a bombproof, snow-shedding frame that integrates a vestibule within the smallest overall footprint. The front pole provides maximum floor width and wall support in your shoulder area and increases headroom near the door - where you need them most.

Floor Area
29.5 sq. ft.
Vestibule Area
9.0 sq. ft.
Trail Weight
5 lb., 5 oz.
including tent, poles, anchor webs and
3 Easton stakes
Poles
3
Packed Size
Tent - 11 x 8 x 4
Poles - 19 x 2 x 2
Custom
Ground Cover
is optional

"...the Kaja is the best single-walled tent I've found for all-around alpine climbing and camping."

Michael Kennedy
Climbing, October 1994

"We found Garuda tents to be of excellent quality, and the Kaja was by far the best light-mountain tent that I have ever used. The third pole gave it a significant amount of extra strength that didn't cost much in weight but was excellent defense against severe winds. The vestibule was also indispensable for big mountain use. This tent is by far the best choice for a light alpine ascent of any peak, from the Sierras to 8000m giants."

David Bridges
1994 American K2 Expedition

Securing the rear cone and vestibule tensions the entire canopy with just three stakes, greatly increasing the tent's structural integrity. Additionally, the zippered rear vent and the high roof line work in conjunction with the vestibule to promote controlled airflow in a variety of conditions. Four zipper pulls on the vestibule door allow versatile access, venting and a view out the steeply raked hood.
**Kusala**

A feature-packed, four-season tent designed to capably handle a wide variety of adventures. Modified-hoop poles at each end and a parabolic arch in the center provide a radically strong, stable, lightweight shelter. And if you don’t need the added canopy support for high winds or snow, the center pole can be left at home—saving five ounces in weight.

An innovative, floorless vestibule extracted from the tent’s main architecture sets the Kusala apart—no other tent in its class so efficiently incorporates a covered entrance and a protected storage area. The vestibule door (shown rolled up to the pole) has 3 zipper sliders to flexibly control access and ventilation. The vent under the unique rear tension cone coordinates with three screened peak vents and the protected inner door to create an adjustable ventilation system, whether the climate is balmy or alpine. Favored by adventurers roaming a variety of harsh climates, the versatile Kusala is always a welcome sanctuary.

“I took the Kusala to Mt. Rainier last winter on the strength of Byron Shultz’ growing reputation for making lightweight, aerodynamic and ergonomically efficient tents. I came away impressed by the Kusala’s efficient design, bombproof resistance to the elements, logical use of interior space, taut aerodynamic skin and truly light weight. Additionally, this tent’s tight and precisely fitted construction and single-wall canopy virtually eliminate wind noise caused by floppy fabric of lesser designs, a feature greatly appreciated during the storm I encountered.

...I found the Kusala to be a major league performer on par with any other four-season tent on the market.”

Ernest Shiwano
Coulour, October 1994

**Emeishan**

This four season tent accommodates two large people opting for more living space. The integrated vestibule provides a large utility area with two doors and steeply raked peak vents. A drying rack and storage area with a coated floor are incorporated into the vestibule tension cone. Four netting pockets, an overhead drying rack and eight hangloops add convenience to the roomy interior.

Oversize Easton® poles amply support the taut canopy to shed snow and wind. The three main poles are quickly erected outside the tent body, allowing a quick pitch without subjecting the living area to the elements. The color-coded center pole securely supports the main canopy, or it can be left home to save 6 ounces when conditions don’t warrant it. In fair weather the rear exterior tension cone may be rolled up to expose the screened vent for complete ventilation and views.

The versatile “Emee” delivers the benefits of single-wall technology in a strong, functional and commodious shelter.

Floor Area
30.5 sq. ft.

Vestibule Area
7.0 sq. ft.

Trail Weight
4 lb., 15 oz.
including tent, poles, anchor webs and 3 Easton stakes

Poles
3

Packed Size
Tent - 11 x 8 x 4
Poles - 18 x 2 x 2
Custom
Ground Cover is included

In fair weather, the Emeishan’s rear exterior tension cone may be rolled up, revealing a screen vent for increased ventilation and visibility.

Floor Area
29 sq. ft.

Vestibule Area
15.0 sq. ft.

Trail Weight
6 lb., 0 oz.
including tent, poles, anchor webs and 3 Easton stakes

Poles
4

Packed Size
Tent - 11 x 8 x 5
Poles - 19 x 3 x 2
Custom
Ground Cover is included
**Atman**

(Aht'·maun)

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**FOUR SEASON + ONE PERSON**

As a four season solo tent for the serious traveler, the Atman incorporates the maximum of features and functional space into a tent scaled for one person – delivered at half the weight and bulk of a comparable two-person mountaineering tent.

Sharing the design of the Kusala forward of the main pole, Atman has an exterior vestibule area, protected inner door and two side peak vents. A zippered rear vent under the tension cone allows additional dry air to enter low and exit through the two peak vents. The center pole gives the tent's steep walls added support, creating a strong, snow-shedding canopy (or the center pole may be left home to save 3.5 oz. when conditions don't warrant it).

If you often travel into the unpredictable weather of the high-country or enjoy long journeys through the outback, you will appreciate this capable, secure and practical shelter for the soloist.

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**Three Season + Two Person**

A light, two-person tent with space to stretch out and plentiful headroom. The screened skylight incorporated into the roof creates an open, comfortable shelter for admiring views and gazing at the stars. Two screened doors allow convenient access for each person.

When the weather turns wet or windy, the skylight vent is quickly covered by the integral roof panel. Sewn in rods supporting the panel can be positioned to control the air flow drawn from the large, zippered rear vent and doors. The PaiMihr delivers exceptional three-season features in a design with structural reserves for high country exposure.

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**1994 Backpacker**

*"The Atman is a wedgy, two-arch hoop tent designed for the serious four-season soloist. Ventilation, wind-resistance, and interior space are all superior, offering prone and sit-up room for six-footers in a four pound bundle. Like the rest of Garuda's designs, the Atman is light, compact, easily pitched, and tough."*

Equipment Editors, Backpacker

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**Floor Area**

32.5 sq. ft.

**Vestibule Area**

n/a

**Trail Weight**

4 lb., 13 oz.

including tent, poles, anchor webs and 3 Easton stakes

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**PaiMihr**

(Pie'·Meer)

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**Floor Area**

21.6 sq. ft.

**Vestibule Area**

7.0 sq. ft.

**Trail Weight**

3 lb., 13 oz.

including tent, poles, anchor webs and 3 Easton stakes

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**Poles**

2

**Packed Size**

Tent - 9 x 7 x 3

Poles - 18 x 2 x 1

Custom Ground Cover is included

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**The ability to adjust interior ventilation for changing weather conditions is a core architectural element of each design.**
A solo three season tent featuring lots of space. This airy tent has two large, screened window canopies, one of which is also the fully zippered door. The rear peak vent exhaust warm air drawn under the door canopies when the tent is weather-proofed (picture shows canopy panels unzipped and rolled up to the center seam).

The Jalan is large enough to accommodate a friendly couple for super-light traveling. The name is inspired by a casual response to an Indonesian greeting, sometimes meaning "oh, going nowhere and everywhere, just out walking": that attitude sums up this versatile and dependable shelter.

"When opened, the side panels can be staked out to form awnings, or rolled up and toggled along the ridgeline for maximum ventilation...I loved the doors and venting...Pitching was simple since we rarely used more than the three-stake minimum."

Steve Howe
BACKPACKER, June 1993
Premium Materials and Construction

Versatility, strength and dependability are the purpose of each model – the result of thorough design, field testing, choice of materials and craftsmanship. Construction details complement the integrated performance of each design. Many of our very specific methods and fabric specifications require extra time, expense and careful attention, but deliver lasting performance from your shelter.

Canopy

Garuda’s exclusive three-layer tent canopy fabric, Byrotex, starts with a premier 1.6 oz. ripstop nylon chosen for its high thread count and tensile strength. The ripstop is finished on the interior with a lightweight, waterproof/breathable monofilament hydrophobic coating. A 1.9 oz./yd. polyester Nexus is adhered to the interior coating. Color: Chamois Gold – provides visibility on rock and snow, yet blends in unobtrusively when you care not to stand out. It reflects more sunlight than it absorbs in a sunny environment to keep the tent cooler and minimize UV degradation, yet absorbs adequate sunlight to dry quickly. On stormbound days, chamois with the pale gold Nexus creates a pleasant, bright atmosphere inside the tent.

Flooring

Stronger than the usual 100 x 86 pic fabric, Garuda floors are a 70 Denier highcount 160 x 90 taffeta with a 1.25 oz./sq. yd. super urethane polymer coating. The higher count taffeta is 35% tougher and more abrasion resistant, and in conjunction with the 25% heavier coating delivers a minimum of 125 psi Mullins – waterproof! Additionally, all the tents except the larger Trikaya feature seamless “bathtub” flooring to minimize leakage points and excess weight. Color: Eggplant – dark for quick drying and excellent UV-resistance.

To minimize external long-term wear and tear that will eventually compromise any tent flooring’s durability, each Garuda hoop-style tent comes equipped with a custom-shaped ground cover made of 86 pic 1.0 oz. coated nylon taffeta. Optional ground covers are available for the expedition dome models. Ground covers are black to promote quick drying.

Taffeta

A durable 86 pic nylon taffeta with a full 1.9 oz./sq. yd. urethane coating is used for vestibules, hoods, zipper flaps, tension cones and bias tape binding. Color: Burgundy – balances being a pleasing accent, drying quickly and excellent UV-resistant qualities.

Netting

No-See-Um nylon netting is used for all doors, windows and vents. The fine weave keeps out the smallest pests and the gray color least disturbs your view.

Zippers

All tents use polyester YKK™ zippers with double nickel plated sliders for their self-repairing durability, strength, smooth sliding and ability to easily round corners. Tent vestibules and doors use larger #7 YKK coil zippers for increased resistance to wear. The lighter weight #5 YKK coil zipper is used on all interior vents and throughout the lightweight Kaja.

Poles

We use only Easton Aluminum 7079-E9 .340”, .355”, .380” and .433” diameter anodized aluminum poles, pre-bent where necessary to distribute stress under snow or wind loads, and shock-corded to allow up to less than 18” or 21” in length. The pole sets are hand assembled and corded by SHOKtechnology, utilizing their advanced shock cord, well established as the most resilient and durable cord for all conditions. Easton Arch Connectors, stronger than plastic pre-bends, complete some framework. The larger diameter poles provide more stiffness and strength in the tent’s main pole. Several of the poles feature color-coded pole sets for easy differentiation while pitching.

Vent hoods maintain their shape with Delrin® plastic rods. Dependably keeping the vents protected and open is essential for good ventilation. Delrin has not been known to break, even in severe, continuous cold conditions and it does not absorb moisture or lose its shape like nylon rods or tubing. All the rod end tips are individually cold cut then flame-melted to round or “ball-up” the tip to reduce potential wear on the fabric reinforcements.

Reinforcements

Waterproofed oxford or 1000 Denier packcloth patches reinforce all stressed stake-loop areas.

Webbing

All webbing is high-quality nylon chosen for its superior abrasion resistance and strength. To prevent fraying, every piece of webbing, hook & loop and tape is hot-cut to length by hand.

Hardware

Posi-Grip™ Toggles on door ties and stuff sacs are light and easy to handle. The acetal construction and spring retains pressure and won’t rust. Acetal DB Buckles maintain a good grip on nylon even when wet, will not rust and are strong.

Accessories

Garuda includes all the standard accessories you need with each tent.


Ground Cover: “custom footprint” (except Kaja & Trikaya).

Tent Sack: a large, rectangular-bottom sack with a drawcord and grab handle; solo tents pack in an oversize, contoured half-moon compression sack with cinch strap & Delrin buckle.

Custom Pole Sack: tube-sack with separate pole and stake pockets, with cinch cord & toggle.

Easton Aluminum 8” Monster Stakes: light, strong, corded tube stake for the main anchors.

Peg Stakes: sturdier-than-usual aluminum eye pegs for extra tie-downs in severe weather.

Blas-Tape Zipper Pulls: for zipper sliders, with several longer ones for the primary zipper pulls.

ELASTIC Guy Cords: for guying out the canopy/ventilus doors (on the Kusala, Atman & Jalan).

SeamGrip®: the most durable, flexible, waterproof seam sealer available.

MonoJet® Syringe: for the precise and efficient application of SeamGrip seam sealer.

Pole Repair Tube: Easton aluminum "pole sleeve" for emergency field repair.

Fabric Repair Switches: one switch of each main fabric for field repairs.

Seam Construction and Thread

Oversize #66 bonded nylon thread and lock stitch sewing is used throughout production. Nylon thread is stronger than polyester and will not rot. Bias-tape construction is used to eliminate thread wear and seam stretch. To provide the reserve strength of three rows of stitching, main seams are lock stitch pre-sewn before being double-stitched with the waterproof bias-tape. To better distribute tension, anchor webbing loops are box-stitched rather than bar-tacked. We have never had a seam fail, in expeditions use or anytime.

Seam Sealing

Each Garuda tent is supplied with SeamGrip Sealant. Garuda does not factory-seal the seams. The advent of SeamGrip sealant changes the whole tapeing issue, greatly improving the performance of seam sealing and maintenance of your tent. A well applied coat will last many years. To insure actual waterproofness, most manufacturers of factory-taped tents recommend that the exterior of the tent still be sealed by the tent owner. Garuda does not factory-seal the tent seams for the following reasons:

Hot taping is a precarious process that dictates how the tent is constructed. Seams intersections need to be rigidly designed for access by the taping machine. The seal tape is applied with a mixture of hot air, warm glue, plastic tape and careful monitoring of the rate of application so as not to damage the materials, yet seal well. Hot taping the seams on Nexus-lined materials is essentially soaking the Nexus with enough glue to adhere the tape and prevent the Nexus from wicking moisture into the interior. Applied improperly, hot tape may be nearly useless, weaken the fabric and peel off. Sealing the interior does not prevent water from coming into the seam itself – water may be channeled to a weak point where leakage occurs. Tents are exposed to a variety of stresses and tensions – repetitive freezing and thawing may weaken the seams and adhesive. And finally, it is an expensive process, possibly costing more than the value added.

The Garuda Guarantee

Garuda takes pride in producing each design to the highest standards of craftsmanship: our goal is high quality, not high volume. We stand behind every product we sell, extending a full warranty to the original owner against defects in workmanship and materials. If your Garuda tent has received proper care, but fails due to defects in manufacture – we’ll repair or replace it at our discretion, at no charge to you.

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