
AC2

AC²

ADVANCED COMPOSITE CONSTRUCTION

In an era where every little product refinement gets defined as innovation, consumers rarely experience groundbreaking changes in product performance. At Arc'teryx®, innovation is more than incremental product improvement. Twelve years ago our Vapor harness brought sophisticated thermoformed shaping to climbers. In 1995, we delivered thermoformed backpack suspension that has become the industry standard. In 1998, our Gore-Tex® outerwear debuted the WaterTight™ zipper and a host of other apparel construction firsts. These are the elements that define Arc'teryx innovation: fundamental materials development that lead to new construction techniques, creating designs that bring new levels of performance.

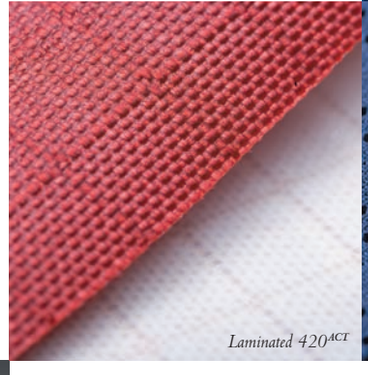
Four years ago we set out to apply our cumulative knowledge of harness, backpack, and apparel development to pioneer an entirely new approach to backpack design. Today, these packs premier innovative waterproof bondable fabric, custom molded components and a compact, lightweight suspension system. Our new AC² packs are the culmination of everything we have learned and represent a new milestone in backpack technology.

"Bondable: A UNITING FORCE; A CHEMICAL BOND THAT SIGNIFICANTLY INCREASES STRENGTH AND STABILITY."

The first step in developing our new packs was defining our materials requirements: we wanted a tough, lightweight fabric, compatible with our many lamination techniques developed for outdoor apparel. After quickly realizing that the right fabric didn't exist we contacted our partners at Uretek, with whom we developed the WaterTight™ zipper. After several years of experimentation, the final textile proved nothing short of revolutionary: a tough, airtight pairing of 420-denier fabric with a two-sided urethane mixture that, when heated to a critical temperature, enables us to fuse components directly to the surface of the textile. In addition, the urethane exterior also acts as a sealant to protect the fabric from absorbing moisture. This new 420d Advanced Composite Textile (420^{ACT}) proved air-impermeable, exceptionally durable and bondable.

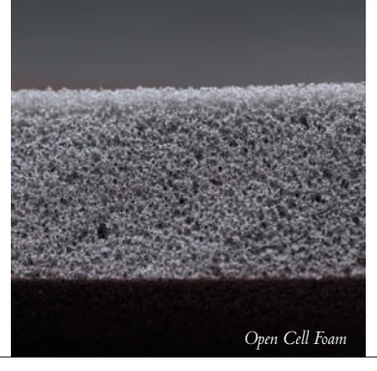
To complete the program, we integrated three additional materials. To further seal out weather, we laminated colour matched pigmented WaterTight™ zippers in the top lid and main pocket areas. We selected a composite fusion of Spacermesh, 420^{ACT} and open cell foam on the shoulder straps and hipbelts and Naos backpanel. These pieces proved creaseless and resistant to chafing, adding a new dimension of comfort.

WaterTight™ Zippers



Laminated 420^{ACT}

Spacermesh Fabric



Open Cell Foam

CONSTRUCTION

"*Composite:* COMBINED ELEMENTS THAT PRODUCE STRUCTURAL PROPERTIES NOT PRESENT IN AN INDIVIDUAL COMPONENT"

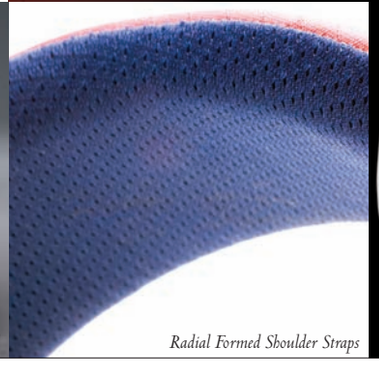
The 420^{ACT} fabric opened a new door for pack construction. Its bondable surface freed us from the constraints of traditional cut-and-sew manufacturing, enabling us to laminate components and suspension systems directly to the fabric. In searching for parts that we could laminate to the pack surface, we found that traditional components were incompatible due to their polymer makeup. We needed to find parts made of urethane, a durable thermoplastic that maintains flexibility under extreme temperatures. In the end, we custom developed our own parts. One mould at a time, we developed components to fuse webbing, shock cords and buckles.

Further leveraging the bondable properties of the fabric, we created a tri-laminate backpanel frame. Composed of EVA foam, resilient Kydex plastic and aluminum stays, this MONOFRAME composite backpanel is thinner and lighter. As a unified structure, our pack's curved shape and supportive form creates a direct link between spine, suspension and bag.

The next project was to develop a new hip and shoulder harness system. For alpinists we created a simple webbing belt with strippable radial formed laminated pods for lightweight comfort. For trekking applications, we built a stiffer and more supportive laminated composite belt with an internal polycarbonate torsion support. Equipped with a urethane LOAD TRANSFER DISC, our new hipbelt provides a superior range of motion, and disconnects easily from the pack. To finish the suspension system, we next designed radial formed shoulder straps shaped with a clean, anatomical curve for added comfort.

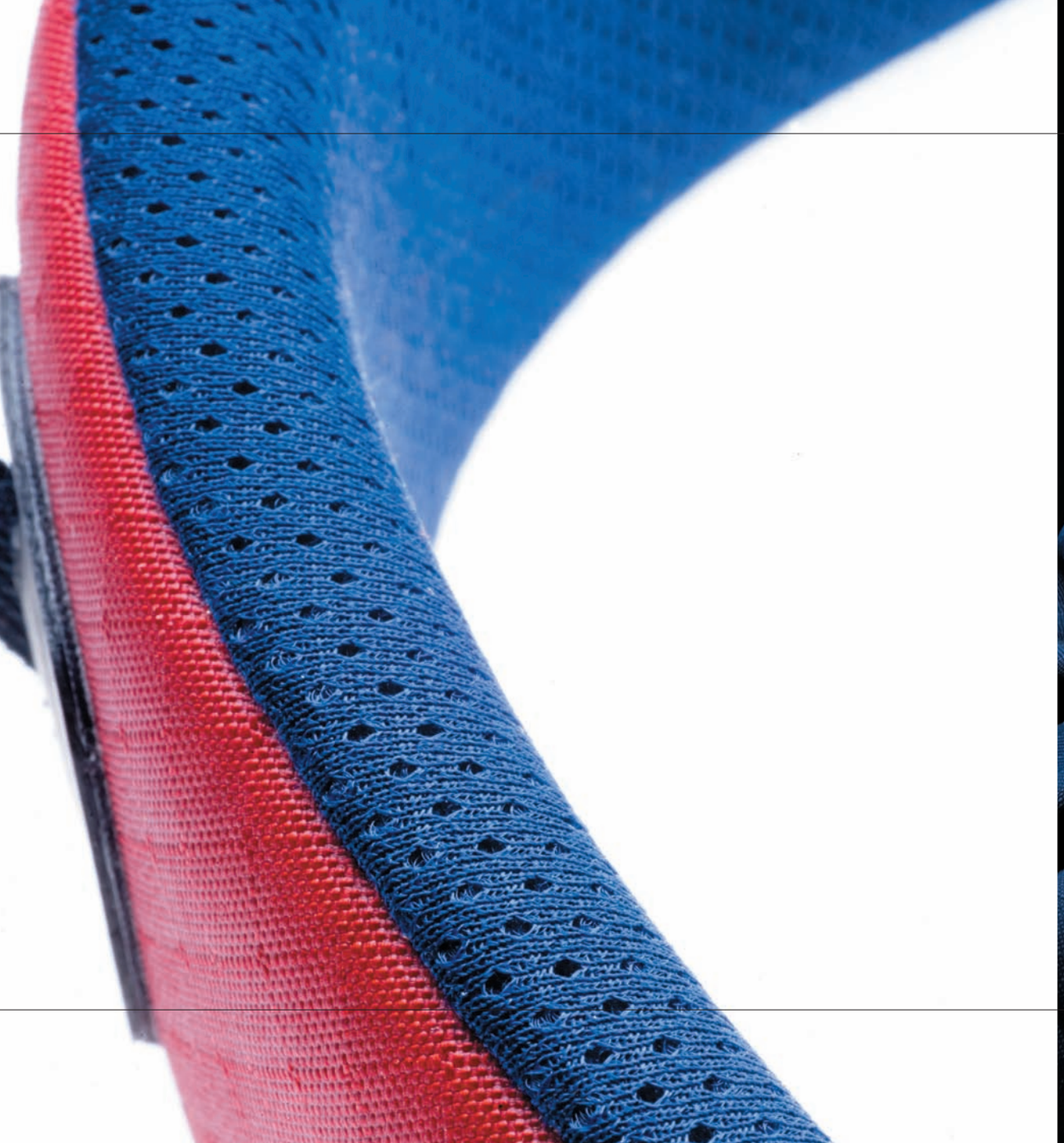
The final step to completing construction was sealing the bag seams. We sourced a urethane-and-substrate sandwich sealing tape and had it trimmed to the perfect width. Affixed by heat, it adds shape, and stabilizes and strengthens the seam. Finished with custom seam tape, our new pack program unifies the bag, body and frame, delivering completely waterproof construction.

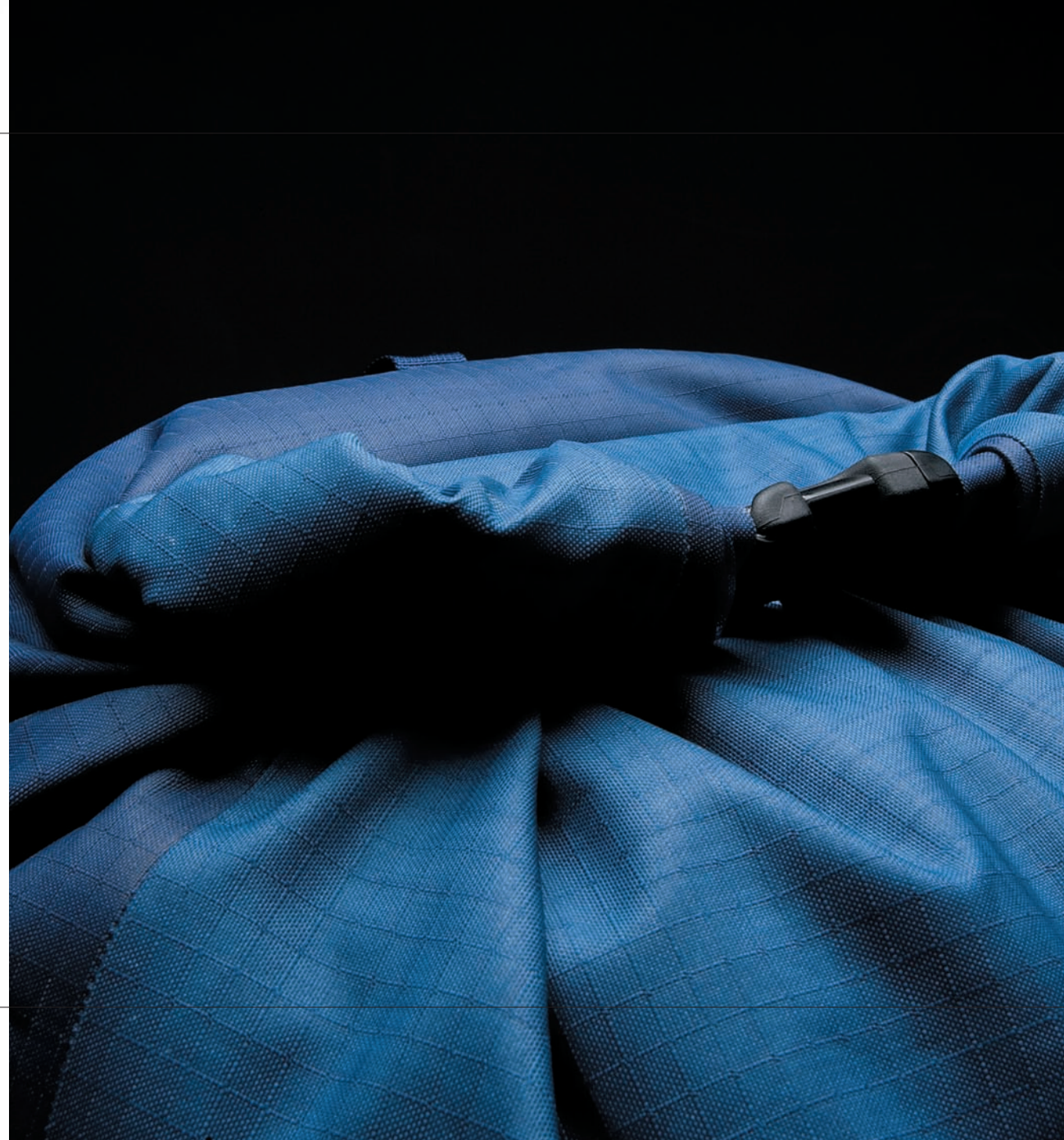

Laminated Hip Pod


Radial Formed Shoulder Straps


Advanced Composite Construction


Monoframe Backpanel





"*Aesthetic:* SUPERIOR DESIGN, CONFORMING TO ACCEPTED NOTIONS OF GOOD TASTE OR BEAUTY."

Constructed unlike any other packs, our new bags shed the fluff that few utilize and reestablish new levels of comfort and performance.

To reduce load-bearing seams, shave weight and provide an appealing aesthetic, the main bag is constructed with only two pieces of fabric cut in a complex pattern to provide 3D volume. The pack is next seam-sealed to provide total weatherproof protection and combined with a drybag closure to ensure that no moisture infiltrates the interior.

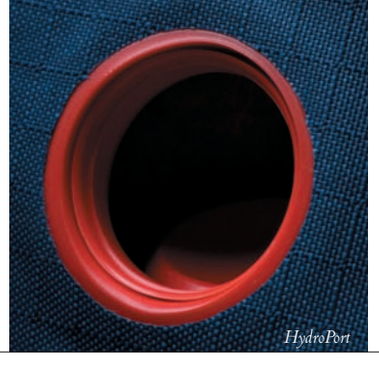
The NAOS trekking bags are equipped with an anatomic structured hipbelt, with an attached innovative rotating LOAD TRANSFER DISC. A kangaroo pocket and stealth interior sleeve create compartmentalized function, while extra side straps hold skis, tools or equipment.

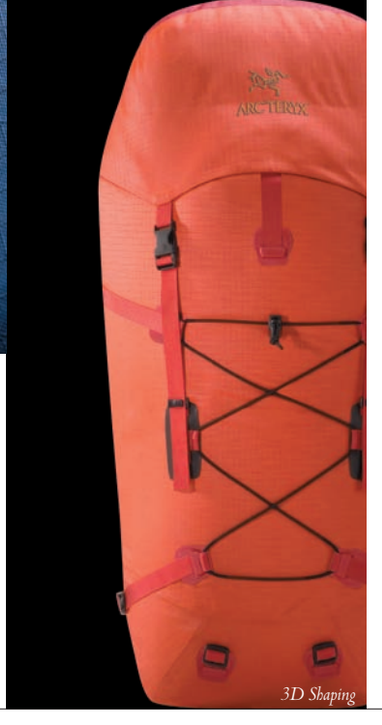
The ACRUX series, our advanced interpretation of alpine packs, are inspired by pared down simplicity. A webbing hipbelt features strippable padded pods that won't interfere with a harness. A flush mounted stretch-woven panel is comfortable on the spine, while side compression locks down the load, and a rear bungee attaches layers quickly.

Full of the functional details, our new bags reflect aesthetic simplicity and beautiful design. They include dependable comfortable suspension, hydro ports, variable volume rolltop closures and a removable top lid. Further visual design is applied with colour matched parts, giving them the simple clean lines ARC'TERYX is known for.


Stretch Woven Panel


Load Transfer Disc


HydroPort



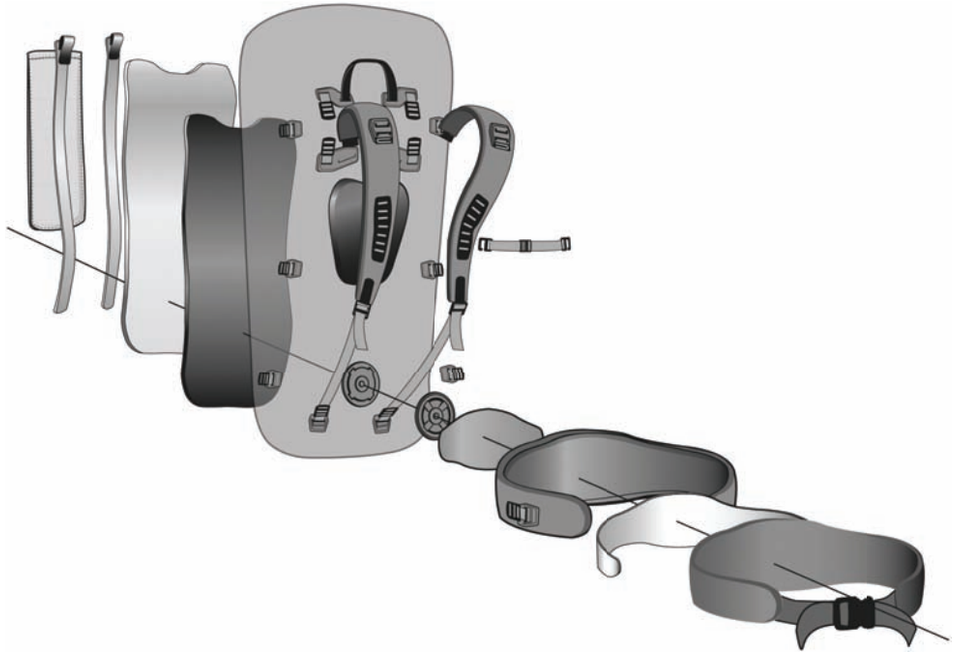
3D Shaping

We set out to fundamentally change pack design, and four years later Advanced Composite Construction was born. By developing a new fabric that facilitates groundbreaking construction, we produced an array of innovations, including new pack lamination techniques, custom injection moulded componentry, lightweight comfortable suspension systems and new 3D volume patterning.

We stand at the beginning of an entire new category of packs. These bags have taken design and construction technology to an elevated level, permanently changing the expectations of outdoor enthusiasts.

AC²

ADVANCED COMPOSITE CONSTRUCTION



ACRUX 40

titanium

gold rush

red beryl

SHORT: 1.5 KGS / 3 LBS 5 OZ
NORMAL LOAD: 35 L / 2100 C.I.
EXT. LOAD: 47 L / 2895 C.I.

REGULAR: 1.6 KGS / 3 LBS 8 OZ
NORMAL LOAD: 38 L / 2320 C.I.
EXT. LOAD: 50 L / 3050 C.I.

TALL: 1.8 KGS / 4 LBS
NORMAL LOAD: 40 L / 2470 C.I.
EXT. LOAD: 62 L / 3815 C.I.

ACRUX 50

graphite

jasper

topaz

cobalt

SHORT: 1.6 KGS / 3 LBS 8 OZ
NORMAL LOAD: 42 L / 2560 C.I.
EXT. LOAD: 56 L / 3415 C.I.

REGULAR: 1.7 KGS / 3 LBS 11 OZ
NORMAL LOAD: 46 L / 2805 C.I.
EXT. LOAD: 60 L / 3660 C.I.

TALL: 1.9 KGS / 4 LBS 3 OZ
NORMAL LOAD: 49 L / 2990 C.I.
EXT. LOAD: 63 L / 3845 C.I.

ACRUX 65

graphite

topaz

jasper

SHORT: 1.7 KGS /3 LBS 11OZ
NORMAL LOAD: 63 L /3845 C.I.
EXT. LOAD: 80 L /4880 C.I.

REGULAR: 1.9 KGS /4 LBS 3 OZ
NORMAL LOAD: 67 L /4090 C.I.
EXT. LOAD: 84 L /5125 C.I.

TALL: 2 KGS /4 LBS 6 OZ
NORMAL LOAD: 70 L /4270 C.I.
EXT. LOAD: 87 L /5310 C.I.

NAOS 45

titanium

sapphire

red beryl

SHORT: 1.8 KGS /4 LBS
NORMAL LOAD: 42 L /2560 C.I.
EXT. LOAD: 54 L /3295 C.I.

REGULAR: 1.9 KGS /4 LBS 3 OZ
NORMAL LOAD: 44 L /2685 C.I.
EXT. LOAD: 56 L /3420 C.I.

TALL: 2.1 KGS /4 LBS 10 OZ
NORMAL LOAD: 46 L /2810 C.I.
EXT. LOAD: 58 L /3540 C.I.

NAOS 55

graphite

cobalt

jasper

gold rush

SHORT: 2 KGS /4 LBS 6 OZ
NORMAL LOAD: 52 L /3175 C.I.
EXT. LOAD: 62 L /3785 C.I.

REGULAR: 2.1 KGS /4 LBS 10 OZ
NORMAL LOAD: 56 L /3420 C.I.
EXT. LOAD: 66 L /4030 C.I.

TALL: 2.2 KGS /4 LBS 14 OZ
NORMAL LOAD: 59 L /3600 C.I.
EXT. LOAD: 69 L /4210 C.I.

NAOS 70

graphite

jasper

cobalt

SHORT: 2.2 KGS /4 LBS 14 OZ
NORMAL LOAD: 68 L /4150 C.I.
EXT. LOAD: 85 L /5190 C.I.

REGULAR: 2.3 KGS /5 LBS 1 OZ
NORMAL LOAD: 73 L /4455 C.I.
EXT. LOAD: 90 L /5490 C.I.

TALL: 2.4 KGS /5 LBS 5 OZ
NORMAL. LOAD: 77 L /4700 C.I.
EXT. LOAD: 94 L /5735 C.I.

Arc'teryx AC² Backpacks
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