

# Virginia Tech's Stone of Tradition



Hokie Stone provides the distinctive visual identification that sets Virginia Tech apart from her sister institutions across the commonwealth and the nation.



To learn more about Hokie Stone, visit our Web site at: [www.unirel.vt.edu/hokiestone](http://www.unirel.vt.edu/hokiestone)

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VIRGINIA POLYTECHNIC INSTITUTE  
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## Virginia Tech's Stone-Solid Foundation

Hokie Stone is the first thing a visitor is apt to notice upon entering the core of the Virginia Tech campus, and it's likely the most enduring visual memory an alumnus carries long after having moved on to meet life's other opportunities and challenges. Known as "our native stone" when first used in campus building construction back in 1901, this attractive and distinctive stone more recently assumed the moniker "Hokie Stone," reflecting its status as a Virginia Tech architectural tradition.

### What is Hokie Stone

Hokie Stone is Chepultepec and Kingsport Formation dolomite—a variety of limestone especially rich in calcium and magnesium. Found in muted shades of pink, red, gray, brown, and black, the multi-colored stone emerged some 300 million years ago and is unique to the southern Appalachian region of southern Virginia, Tennessee, and Alabama. At the end of the Paleozoic Age—the period most often associated with the emergence of fish, insects, and reptiles—Continental Drift forced the coastal planes of Africa and North America to collide, creating wrinkled layers of faults and folds. As these layers were pushed near the earth's surface, they formed the stone that we mine today.

The color variations of Hokie Stone reflect the conditions present when the stone was formed. Older dolomites display pinkish tones, the result of formation in an arid, desert-like climate that had a bleaching effect on the rocks. Swampy and wetter conditions formed the darker gray and black colors.



### Where do we get Hokie Stone

Virginia Tech may be the only university in the nation to operate its own federally certified stone quarries. Most stones for today's projects come from the 40-acre main quarry a couple of miles from the central campus. In operation since 1958, this quarry was upgraded with new facilities in 1993 and employs about 30 people.

A second quarry at Lusters-Gate, about five miles east of campus, supplies the darker stones, accounting for about 20 percent of the Hokie Stone used today, while the main quarry supplies approximately 80 percent.

# How is Hokie Stone made?

Hokie Stone production is a labor-intensive process.

Workers use black powder, a relatively quiet explosive, to dislodge the rock from its shelf-like formation. The black powder provides “clean” cuts of stone and does not break the rock into pieces too small to be useful. Using black powder also limits the amount of noise and dust created—an important consideration because of the quarry’s close proximity to a residential neighborhood.

The large chunks of stone are transported to a processing area where they undergo three steps—drilling, breaking (or splitting), and cutting—that transform irregular chunks into the finished Hokie Stones used in building construction.

Drilling involves splitting large chunks into smaller and more manageable sizes. Holes are drilled along pre-identified seams in the rough stone, and a cylinder-like hydraulic splitting device inserted into one or more of these holes uses compressed air to fracture the stone along the seam.

The smaller chunks of stone are then fed into a breaking machine, which applies some 300 tons of force to split the stones and size them into the approximately 2' x 1' dimensions most commonly used for cutting and dressing (carving the outer face of the stone to provide the desired level of surface relief).

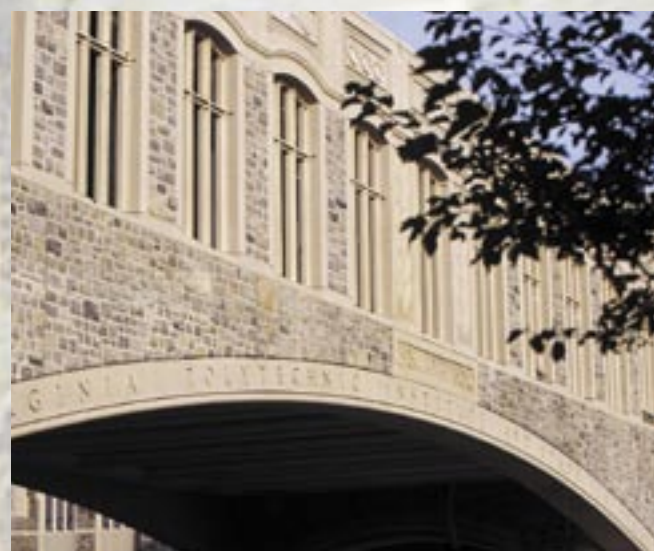


Cutting, done entirely by hand, employs the same masonry tools—a hammer and chisel—that have been used for centuries. Masons shape, smooth, and dress the rough stone to its final dimensions. Each skilled mason completes about a ton or so of finished stone per day. The stone is then palletized and shrink-wrapped to help prevent breakage, and delivered to the job site.

Virginia Tech’s quarry operations produce about 55 tons of Hokie Stone per week, or about 2,600 tons per year. One ton of the stone will cover about 35 square feet on a building. To cite just one example, about 2,700 tons of Hokie Stone was used to build Torgersen Hall and the distinctive bridge connecting the building and Newman Library.



*Performing Arts Building—Tech’s first Hokie Stone structure.*



*The original McBryde Building of Mechanical Arts combined Hokie Stone with the Neo-Gothic architectural style.*

# How is Hokie Stone used on the Tech campus?

The first Hokie Stone building on campus was the privately funded YMCA building (now the Performing Arts Building), constructed in 1901.

The first building to combine Hokie Stone with the neo-Gothic (Collegiate Gothic) architectural style so prevalent on campus was the McBryde Building of Mechanical Arts, which was constructed in 1917 and razed in 1966. With its Collegiate Gothic design, native stone construction, and prominent tower, McBryde served as the prototype for numerous buildings that followed.

In the 1990s, the Virginia Tech Board of Visitors, recognizing the significance of Hokie Stone to the university’s physical identity, directed that at least some native limestone be incorporated in all new buildings on the central campus, barring some compelling reason for not doing so.

While there is no question that Virginia Tech’s faculty, staff, students, and alumni give the university its most important identity, Hokie Stone provides the distinctive visual identification that sets Virginia Tech apart from her sister institutions across the commonwealth and the nation.