Armstrong FLOORING

CASE STUDY | **EDUCATION**

Project:
Katherine Johnson Technology Magnet Academy

Location:
DeSoto, Texas

Designer / Architect:
Perkins+Will

Contractor:
One Source Flooring

Armstrong Flooring:
ColorArt® Medintone™ with Diamond 10® Technology; Natural Creations® ArborArt® with Diamond 10® Technology

Featured skus:
H5424. H5426, H5434, H5408, H5423, H5428, H5300, H5306, NA171

Katherine Johnson Technology Magnet Academy

Inspiring STEM Learning Through Design

Commercial Sheet and LVT products accentuate colorful, biophilic elementary school.

An inspiring and legendary woman to many, Katherine Johnson was one of the first African-American mathematicians employed by NASA, and her hand calculations planned the trajectory of America's first trip to space.

Her legacy lives on in DeSoto, Texas, where the DeSoto Independent School District named the Katherine Johnson Technology Magnet Academy (KJTMA) in celebration of the famed mathematician. The 109,500 sq. ft. state-of-the-art building was completed in August 2018, and developed with progressive, biophilic design concepts as a foundation for an emphasis on STEM and outdoor learning.

The school district called on architecture and design firm Perkins+Will to design the technology-focused elementary school, and the firm left no leaf unturned when planning the design.

"We were really trying to invite innovation to different activities, and the learning environment as a whole," said Karen Kentile, Arch III (licensed architect and interior designer) at Perkins+Will. "There's a special curriculum at KJTMA, and it called for a unique school that used the building as a teaching tool. We wanted to spark interest, inspire students, and lean on research to guide the project."

Inspiring Design to Reflect STEM Learning

As noted by World Economic Forum, it's estimated that 65 percent of current 4-year-olds will end up in a job that doesn't yet exist. DeSoto ISD committed to growing lifelong learners with problem solving skills, as well as introducing elementary students to the STEM disciplines that are pushing forward global growth. STEM learning focuses on four disciplines that make up the acronym: Science, Technology, Engineering, and Math.

To support this curriculum, Perkins+Will set out to design a state-of-the-art building that suited the advanced learning for elementary school. Situated at the core of the school is a highly collaborative, two-story media center. Flanking the media center are courtyards on either side, providing natural light and blurring the lines between indoors and outdoors. The outermost section of the building has grade-level classrooms interconnected by collaboration zones.

To navigate it all, vivid wayfinding weaves throughout the school

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with different colors assigned to each grade level — and in KJTMA style, wayfinding was inspired by a computer circuit board. Armstrong Flooring's Homogeneous Sheet collection of **ColorArt Medintone** lines the corridors, classrooms, and media center inside KJMTA, a versatile flooring selection that met several requirements for Perkins+Will design plans.

"We were very intentional with how we used color, and Armstrong Flooring's palette had exactly what we wanted," Kentile said. "The jewel tones for wayfinding were what we needed to simulate the age groups and tech culture."

Beyond colorful wayfinding, Perkins+Will created custom patterning with curved and linear forms, and commercial sheet better catered to the design and its installation. In lieu of heat welding, products were adhered with Armstrong Flooring S-761 seam adhesive, which allowed the linear patterns to show off clean, crisp lines throughout the corridors. Where cleanability was a priority, seams were heat welded in restrooms.

"The versatility of Armstrong Flooring sheet product allowed us to implement our preferences and ideas throughout the school," said Kentile. "Whether it was color, cutting curved forms, or using adhesive for crisp lines, we were very pleased with how it turned out."

Blurring Lines Between Indoors & Outdoors

Perkins+Will boasts 10 different research labs of its own, driving internal decisions in design and architecture. Based on its own research, taking a biophilic design approach to KJTMA was a priority from the outset.

"We wanted to make sure there was natural daylight within all of the learning spaces," said Kentile. "We know that students perform better with natural light and naturals views. The more we could connect the learning experience to the outdoors, and effectively bring the outdoors inside, there was going to be a better learning experience for the students."

Glass walls line the media center, which is situated between courtyards, and allow natural daylight to reach far into the school. Furthermore, classrooms adjacent to outdoor spaces have garage doors for instant access to the outside when it's suitable.

A large, wood pathway connects through the courtyard and winds through the media center, which connects the courtyard to interior spaces in wayfinding fashion. Where the natural wood path ends, **Natural Creations ArborArt** luxury flooring continues the visual nearly identically indoors. Perkins+Will selected a wood-look visual that mimics the outdoor wood path, maintaining the biophilic theme while still practically guiding students through the heart of the building.

"Continuing the wood look throughout the building was ideal, and we didn't have to sacrifice on the visual," said Kentile. "There are plenty of design visuals available, and we found a wood visual in ArborArt that matched really well with the actual wood in the pathway."

It's a small, but important detail in creating a terrific school experience for students and teachers alike.

"In a nested school with the hub in the middle, orienting students in unique but specific and simple ways is important," said Kentile. "The floor has a lot to do with the student experience, and it contributed in a versatile way on this project."