



# TEXAS SCHOOL GIVES ENGINEERED WOOD AN EASY A

## Project Summary

### PROJECT:

Gunter Primary School  
Gunter, Texas

### OWNER:

Gunter Independent School District

### ARCHITECT:

SAI Architects

### BUILDING SIZE:

59,700 square feet

### COST:

Approximately \$100 per square foot

### COMPLETED:

2007

With the city's slogan, "On the road to the future!" there's no doubt Gunter has big ideas for a small North Texas town, located just an hour from the Dallas-Fort Worth Metroplex. In the usually quiet streets of Gunter, the town is paving the way for its younger generation with the construction of Gunter Primary School.

Completed in March 2007, the 59,700-square-foot, wood-constructed school includes classrooms, a computer lab, a cafeteria and kitchen, gymnasium, and administration offices.

For the architect, choosing materials for the building was easy. "I like using wood in my school projects," said Fred Sahs, principal with SAI Architects and the architect and construction manager for Gunter Primary. "School construction schedules always seem to be fast

track. With wood, the deliveries are fast and frame assembly moves quickly," Sahs said. After shop drawing approvals, the engineered wood products were on the ground in about four weeks. In other projects using steel, the steel delivery required 15 weeks, according to Sahs. "I also like the increased design flexibility when using wood," Sahs added.

But it was Gunter Independent School District's past experience with wood that ultimately swayed its decision to construct the school of all wood. "Most of the schools in the area are steel-framed," said Donald Hampton, Project Superintendent of Gunter Primary School. "But in this town, about seven years ago, a new 35,000-square-foot middle school was built using wood. Many of the decisions made for this school were based off that project."



Constructed of all wood, Gunter Primary School used a variety of APA trademarked engineered wood products.

The school's unique design concept features wood in exposed and hidden structural applications. The pitched roof design, with long spans and dramatic angles, used a variety of lumber and structural engineered wood products. APA Rated oriented strand board (OSB) and plywood were used on the walls and roof of the fully sheathed, wood-framed building, including 7/16-inch panels with a Span Rating of 24/16 for the walls. I-joists in 14-inch depths were used for rafters and 5-1/2- to 6-1/2-inch-wide and 24- to 36-inch-deep APA trademarked glued laminated timber (glulam) for structural support, as well as aesthetics. A laminated lumber decking with tongue-and-groove edges provided the structural base over the gym and cafeteria. Plywood 15/32-inch APA Rated Sheathing was installed over the lumber decking as a diaphragm to provide shear resistance. Insulating foam with an adhered wood structural panel on the upper face (to serve as a nail/adhesion base for the finish roofing) was attached to the lumber-decking/panel-sheathing substrate.

By enhancing the inherent structural advantages of wood, engineered wood products achieve greater strength and stiffness compared to standard lumber.



Supporting the roof framing, this large glulam beam in the school's cafeteria is APA trademarked from Standard Structures, Inc. The glulam, measuring 12 inches wide by 7 feet deep and 82 feet long, also supports a vertical wall directly above.

This superior strength and stiffness allows engineered wood beams to span greater distances than dimensional lumber with minimal need for intermediate supports, giving designers and builders greater design flexibility.

"I've been in business for 35 years and I enjoy doing projects with wood," said Hampton. "This structure is interesting. I've put up large buildings before, but with the overall building height and length of spans, it was different," said Hampton. "One of the glulam beams is 12 inches wide by 7 feet deep and 82 feet long!"

Engineered wood products typically require less materials to achieve the same strength and stiffness of standard lumber and, therefore, provide cost savings to the owner and allow projects to be completed sooner. With on-time completion crucial for Gunter Primary, this attribute worked in the school's favor.

While no official cost comparison was conducted for different materials, the design team looked at rough numbers and carefully weighed the pros and cons. "Steel often requires more engineering and can be a slower process," said Cohagan. Hampton said, "the cost of using engineered wood was substantially less than using steel. Wood is also more readily available and the time frame was a big thing for this project." Construction costs were estimated to total about \$100 per square foot.

Although the project was not certified under any *green* building program, Sah's design incorporated sustainable design elements by using durable materials that reduce overall impact to the environment. Sustainable design methods and materials result in long-lasting buildings that are easier to maintain and require fewer repairs. Engineered wood takes sustainability to a higher level by maximizing the resources of a naturally renewable building material.



APA trademarked 14-inch-deep I-joists were used for the school's rafters.

As the project neared completion, many community members responded well to the town's latest addition. "The new school is located across from a park, so the view coming into town is a lot better," said Cohagan. "Even the mayor commented on how nice the building looked," said Hampton. "It really is a great addition to the community."

We have field representatives in many major U.S. cities and in Canada who can help answer questions involving APA and APA EWS trademarked products. For additional assistance in specifying engineered wood products, contact us:

**APA – THE ENGINEERED WOOD ASSOCIATION HEADQUARTERS**

7011 So. 19th St.  
Tacoma, Washington 98466  
(253) 565-6600 • Fax: (253) 565-7265

[www.apawood.org](http://www.apawood.org)



**PRODUCT SUPPORT HELP DESK**

(253) 620-7400  
E-mail Address: [help@apawood.org](mailto:help@apawood.org)

Form No. G170  
Issued March 2007/0050

