

sapa:

Aluminum Bridge Decking

Accelerated Bridge Construction
With Time-Proven Technology



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Accelerated Bridge Construction (ABC) With Time-Proven Technology

Sapa's advanced design aluminum bridge decking technologies offer unmatched advantages over traditional steel and concrete construction:

- Accelerated construction saves significant time and money in both A+B and A+B+C bid evaluations. Sapa's technologies are perfect for many bridge rehabilitation projects because of reduced agency and community costs. There are immediate user benefits for local schools, police departments, fire protection, local businesses and commerce.
- Reduced lifecycle costs from initial installation throughout the life of the bridge:
 - Limited traffic interruption, reduced car and truck user costs, and lower traffic control costs
 - Lower maintenance costs from epoxy and aggregate bonded wearing surface compared to concrete deck repairs or replacement
 - Never needs painting even in the presence of deicing salts (100+ year bridge life without paint), is recyclable (and potentially reusable)
- Lightweight (25 pounds per square foot) decreases dead load. Aluminum deck is up to 75% lighter than steel with concrete, allowing for widening of functionally obsolete bridges using the existing substructure. Many bridges not currently rated to carry trucks, buses and some emergency vehicles can be opened to such traffic.
- "Deployment Ready" technology can be preassembled for rapid bridge deck or whole bridge replacement.
- Facilitates rehabilitation versus replacement.
- Aluminum is the environmentally friendly "green" metal. Sapa bridge decking contains significant recycled content and is easily and profitably recycled - 75 percent of all aluminum produced since 1888 is still in use!
- Designed around infinite fatigue life using AASHTO Specifications for aluminum bridges.



Bridge in Storgatan, Härrösand (Sweden)



Bridge in Stallarholmen, Strängnäs (Sweden)





> **Current data indicates that 71,469 of U.S. bridges are structurally deficient and 79,922 more are functionally obsolete.**

According to several Federal Highway Administration (FHWA) funded experimental and analytical evaluations, aluminum decking is a viable option for many applications. Sapa's aluminum bridge deck technology allows for bridge owners to complete more projects, in less time and at lower cost.

> **Sapa is the leader in bridge deck technology.**

Our company offers the advantage of proven aluminum isotropic deck technology that evolved from 45 years of experience started with the Smithfield Bridge. From analysis done on material sampled in 1994, several modifications and design improvements were implemented. That new technology has proven very successful after being applied to the Corbin Bridge and later to the Little Buffalo Creek Bridge.

Sapa also owns time-proven aluminum orthotropic deck technology utilized on 70 bridge deck projects in Europe since 1987!

Everyday, Sapa bridge deck technology continues to deliver service and performance on more than 110,000 square feet of bridge decking worldwide.



Sapa is committed to the North American market.

As the world's largest aluminum profile company, Sapa operates 16 strategically located plants throughout North America.

Financially strong and stable, the company continues its extensive program of capital investment.

As a result, Sapa is a leader in alloy chemistry and press technology, supported by complete fabricating services, expert design assistance and the most responsive customer service in the industry.

sapa:

Shaping the future

History of proven successes



Little Buffalo Creek Bridge with its aluminum isotropic deck (on US Route 58 in Virginia) under construction in 1997

- First cost competitive
- Reduced lifecycle costs – requires no paint and is recyclable
- Modular panels with proven minimum 12-year wearing surface
- Bridge was widened using much of the substructure, removing it from the functionally obsolete list.



The historic Corbin Bridge in Huntingdon, PA with its nearly 13-year old aluminum orthotropic deck

- Documented lightweight bridge deck performance attributes allowed increased capacity from 7 to 24 tons and decreased dead load by 50% compared to the steel and asphalt system it replaced.
- Aluminum deck and wearing surface in excellent condition after nearly 13 years of service



Sapa extrusions produced in Finspång, Sweden

- FHWA-approved bridge in Clark County, Kentucky
- Installed in one day!



Virginia Route 36 Bridge over the Appomattox River in Petersburg, VA

- Installed in 1961, the aluminum girders have never been painted!
- The aluminum girders work compositely with the concrete deck.
- The aluminum structure is in good condition after 48 years of service.

Sapa Extrusions

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