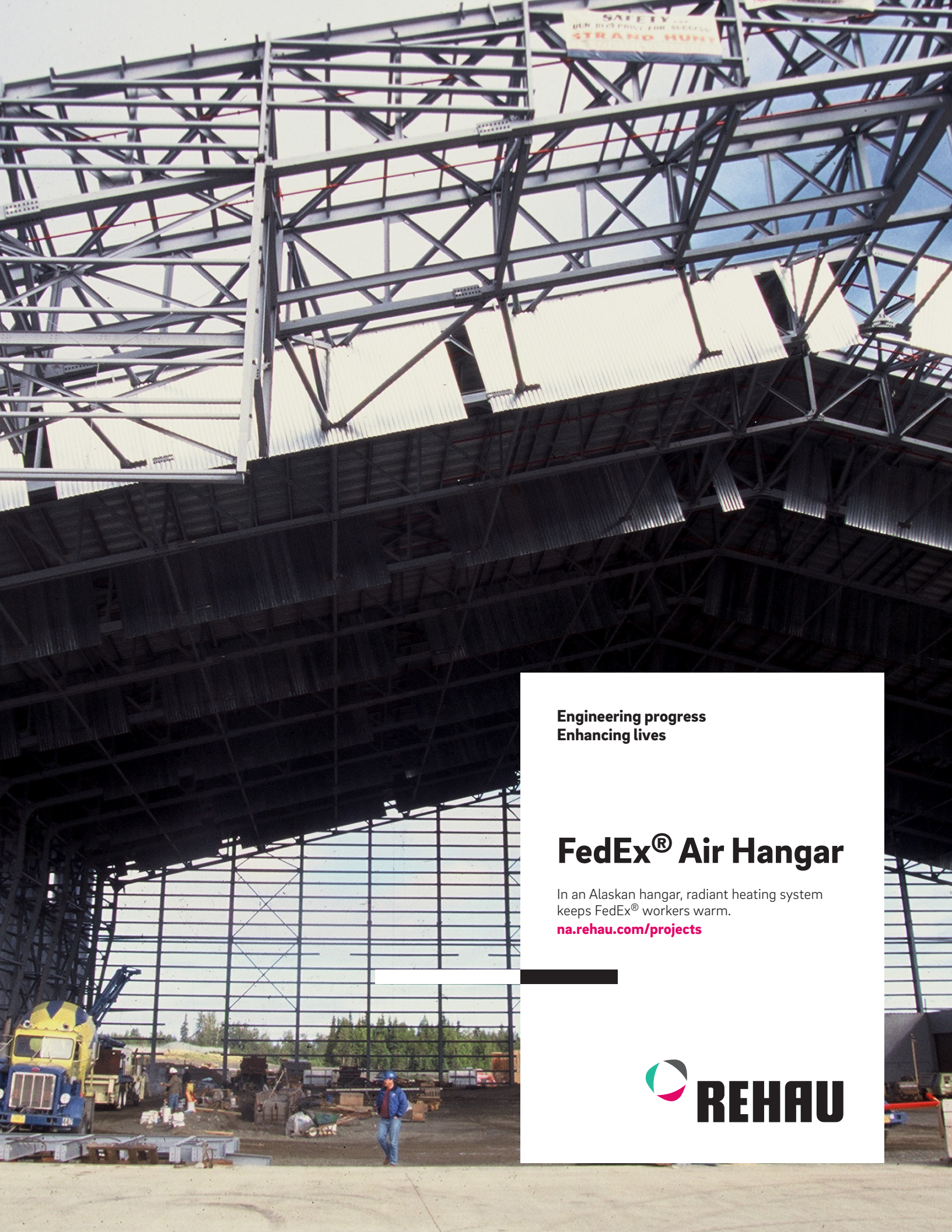

Engineering progress
Enhancing lives

FedEx® Air Hangar

In an Alaskan hangar, radiant heating system keeps FedEx® workers warm.

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REHAU

Radiant heating makes a big difference for a busy FedEx facility in Alaska

Keeping an express delivery service functioning on time, a challenge under any circumstances, is made even more difficult in the harsh Alaskan climate. After leasing a 72,800 ft^2 (6,763 m^2) airplane hangar in Anchorage, FedEx found themselves in need of a heating system that would keep employees warm and machinery running, recoup rapid drops in temperature and be inexpensive to operate.

Opening the door to an airplane hangar in Alaska's frigid temperatures can result in a drop of 60° or 70°F (33° or 39°C) in only minutes. FedEx knew the comfort and safety of their workers would be paramount to maintaining quality and efficient workmanship.

The architectural engineering firm of Frankfurt Short Bruza Associates (FSB) recommended a radiant /forced-air combination heating system. The radiant heating system would serve as the primary heat source, providing steady, efficient heat, and the forced-air system would engage whenever the hangar doors were opened to help quickly re-heat the facility.

The REHAU radiant system circulates a heated water/glycol mixture through 43,000 ft (13,106 m) of 1 in. RAUPEX Barrier O_2 crosslinked polyethylene (PEXa) pipe, resting on a steel grid within the concrete slab. When the system is engaged, the floor acts as a thermal mass, retaining much of the heat even when the hangar doors are opened and minimizing the time the forced-air system must be activated.

"PEXa was chosen because it has a history of reliable service and is our material of choice for indoor heating and snow melting applications," said Fred Erdman, chief project engineer with FSB.

The heated floors not only keep employees warm, they immediately begin melting snow and ice off incoming aircraft, and because the warmed concrete floor retains heat even when the air temperature drops, water quickly evaporates as aircraft are admitted, resulting in a safer work place.

"This is the perfect application for radiant heating," says Mike Dietrich, REHAU heating product manager.

"Alaska's harsh winters demand the most effective and efficient heat source available, and radiant is it. Heating the entire volume of a 92-foot-high structure is an enormous waste of money. Radiant puts the heat where people need it."

Project: FedEx® Air Hangar, Anchorage, AK
Construction type: Airport hangar renovation, opened in 1996
Project scope: 72,800 ft^2 (6,763 m^2) airplane hangar; 43,000 ft. (13,106 m) of pipe
Architect/Engineer: Frankfurt Short Bruza Associates
Installer: Alaska Mechanical
REHAU systems used: Radiant heating (RAUPEX® pipe, PRO-BALANCE® manifolds)