WHITE PAPERS

COLD WEATHER CAN'T STOP PRECAST CONSTRUCTION

WINTER WEATHER CONDITIONS CAN PROVE particularly challenging for building contractors because cold weather affects project schedules, construction quality and employee safety. But winter construction is essential because business growth can't stop when cold weather hits. The good news is that contractors can combat sub-zero temperatures, ice and wind chill with innovative building materials and construction methods. Traditional building materials and construction methods are highly susceptible to weather conditions. The building materials that are construction site-intensive are the most impacted by the cold. For instance, outside masonry requires special precautions to keep tools and mortar from freezing. Similarly, tilt-up panels are composed of concrete that's poured on site and allowed to set, but if temperatures are too cold, concrete can't cure properly.

The American Concrete Institute's definition of cold-weather concreting, as stated in ACI 306 is, "a period when for more than three successive days the average daily air temperature drops below 5°C (40°F) and stays below 10°C (50°F) for more than one-half of any 24 hour period." Given that these conditions apply to large areas of the northern United States and Canada during the winter months each year, the need for versatile and reliable cold weather building products is an ongoing concern for building contractors in these areas.

Precast concrete panels help keep building projects on schedule, regardless of the weather. Unlike masonry or tilt-up panels, precast panels arrive on the construction site ready to be lifted into place. Once erected, they can provide load-bearing support, giving site managers more flexibility over the construction schedule. Precast also provides an immediate barrier to the elements, including insulating properties against the cold, allowing work to be done inside the building.

Another benefit of precast panels is consistent quality, regardless of the time of year. That's because precast panels are cast and cured indoors under controlled conditions.

Precast also offers safer working conditions for builders. Harsh wind chills can make outside construction unbearable. Masons are continually exposed to the cold, putting them at risk of frostbite if they don't take frequent breaks. When making tilt-up walls, workers need equipment such as cement mixers and molds that can be difficult to maneuver in the snow and ice.

Finally, nearly one-third of a building's operating budget can come from heating and cooling costs. But precast concrete wall panels help reduce heating and cooling costs long after the first winter has passed. In contrast, masonry is porous and susceptible to cracking, allowing heat to escape, while most tilt-up panels are created without insulation, requiring the interior surface to be furred out so that insulating materials can be put in, thus meeting heat retention requirements. Precast panels offer the highest energy efficiency without additional costs.

Precast panels can stand up to the coldest conditions. They are a consistent and reliable construction choice in any season and in a wide variety of applications.

For more information, contact Fabcon at 1-800-727-4444.