NVELOPE Technical Bulletin

NVELOPE system versus fiberglass girts

Our NVELOPE thermally broken subframe systems are often compared to fiberglass (FRP) girt products. These FRP products are made of a pultruded fiber reinforced polymer material. Although the thermal performance and simplicity of these FRP products is very desirable, there are many undesirable characteristics of these products that should be considered when selecting a cladding support subframe system.

- FRP materials begin to degrade when exposed to sunlight. Materials at the job site need to be covered or kept out of direct sunlight prior to being installed. Once installed, the cladding needs to be installed soon after to limit exposure.
- FRP materials can become very brittle in extreme cold. This can be an issue when installing in colder climates.
- A fine dust is created when cutting FRP girts and installing fasteners. This poses a health risk to installers.
- Rigidity of FRP girts decreases especially with deeper cavities and heavy cladding.
- Long-term pullout capacity of cladding panel attachment fasteners into FRP girts is unknown when considering thermal cycling over a building's lifespan.
- Standard design guidelines do not exist for FRP materials as there are for metallic products (AISI for steel and ADM for aluminum).
- NVELOPE is a cladding support "system" whereas FRP girts are really just a "building product".
- FRP girts typically come in standard (short) length sections which can be restrictive depending on the building elevation layout.
- Connections used with FRP girts are all "fixed" which does not allow for thermal movement. This can cause oil canning or damage to cladding.
- FRP girts do not allow for adjustment when the substrate is out of plumb. To correct any deviations in the substrate, shims behind the FRP girts would be required.
- The 2022 NY Building Code has been adopted in Washington, DC and Chicago, IL and others are following. It states that the use of FRP materials above 40 feet may require firestop materials like intumescent sealants. NVELOPE® is a non-combustible solution that does not require any additional firestop materials.

SFS Group USA, Inc.
T 1-844-NVELOPE (683-5673)
E us.nvelope@sfs.com
us.sfs.com