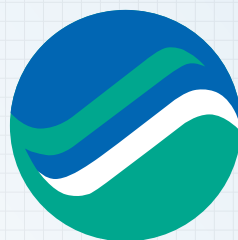
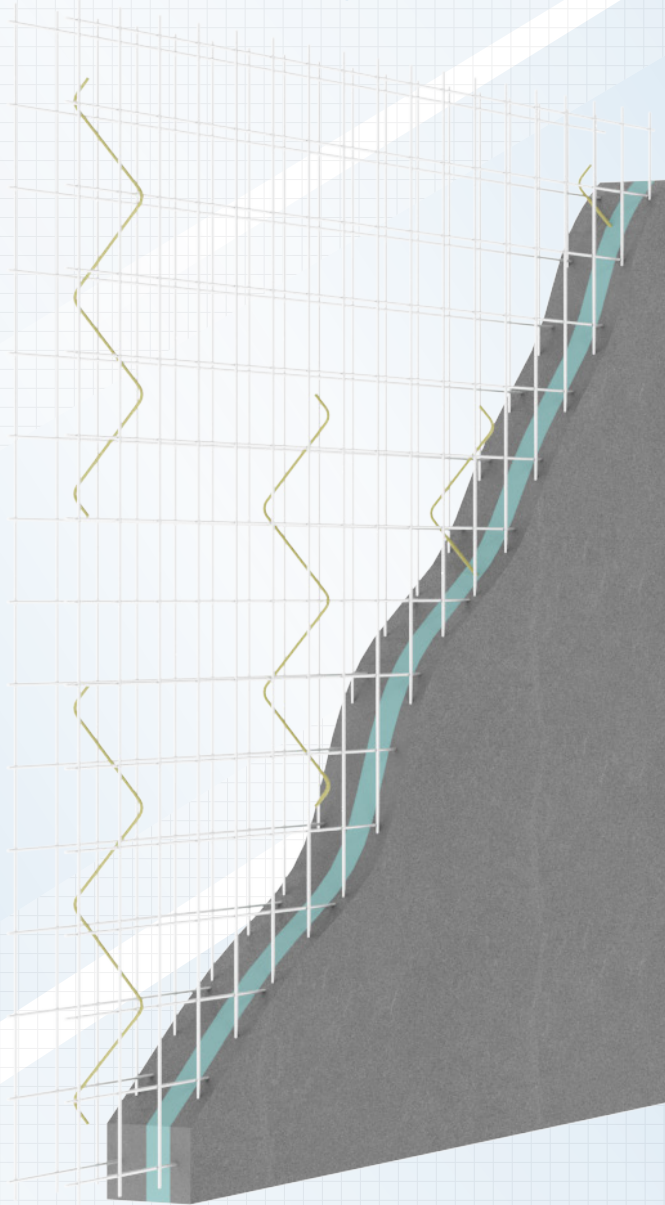


# TiETEC

ASTEC by Dextra

Glass fiber reinforced polymer  
connector for insulated precast  
sandwich panels



**Dextra**

[www.dextragroup.com](http://www.dextragroup.com)

## ASTECC TieTec

TieTec is a precast concrete sandwich panel connector that combines the mechanical properties and the thermal efficiency of ASTEC Glass Fiber Reinforced Polymers (GFRP) bars. The use of TieTec is an innovative way to produce precast sandwich panels in a faster and more economical way compared to other methods.

## Benefits

### STRUCTURAL:

- TieTec precast ties are suitable for composite, partially composite and non-composite precast concrete sandwich panels.
- TieTec precast ties are corrosion resistant material leading to slimmer panels.
- TieTec material is manufactured with optimum bonding with concrete thanks to dual surface deformation and sand coating.
- No magnetic interference.
- No electrical conductivity.

### COST REDUCTION:

- Astec GFRP TieTec precast ties are stronger than steel, therefore fewer number of ties are needed compared to other methods.
- TieTec precast ties are lighter than other connectors and easier to install, leading to higher sandwich panels productivity.

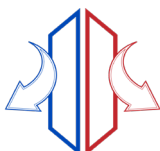
### THERMAL NON-CONDUCTIVITY:

- Same thermal conductivity as insulation foam.
- 1,500x better thermal insulation than black steel.
- 650x better thermal insulation than stainless steel.
- No thermal bridge = Energy efficient structure.

## Product features



Light weight

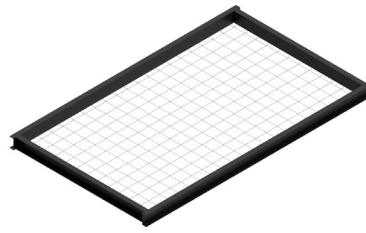


Thermal insulation

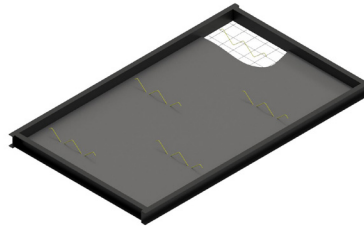


Corrosion resistant

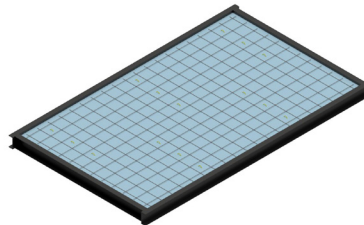
## Installation Sequence



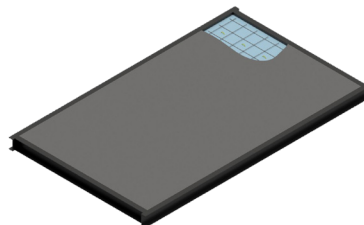
**1.** Prepare the reinforcement steel to the size of the formwork.



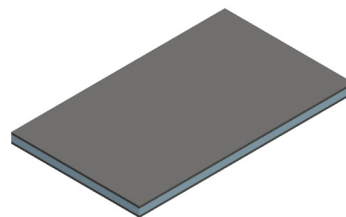
**2.** Fix the Tie-Tec precast ties in the designated locations in the formwork and then pour concrete.



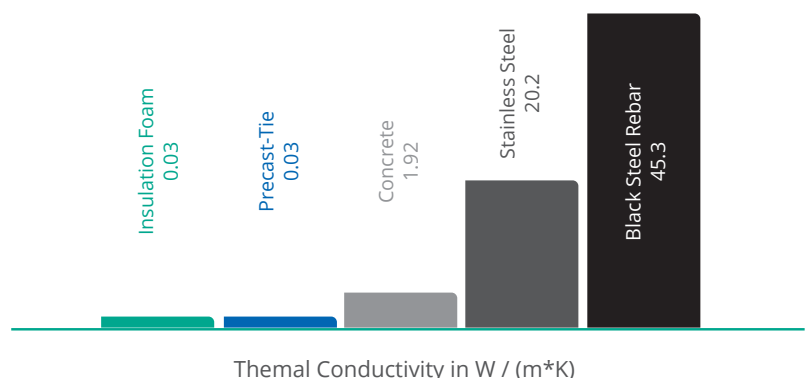
**3.** Install the insulation and reinforcement steel of the other layer.



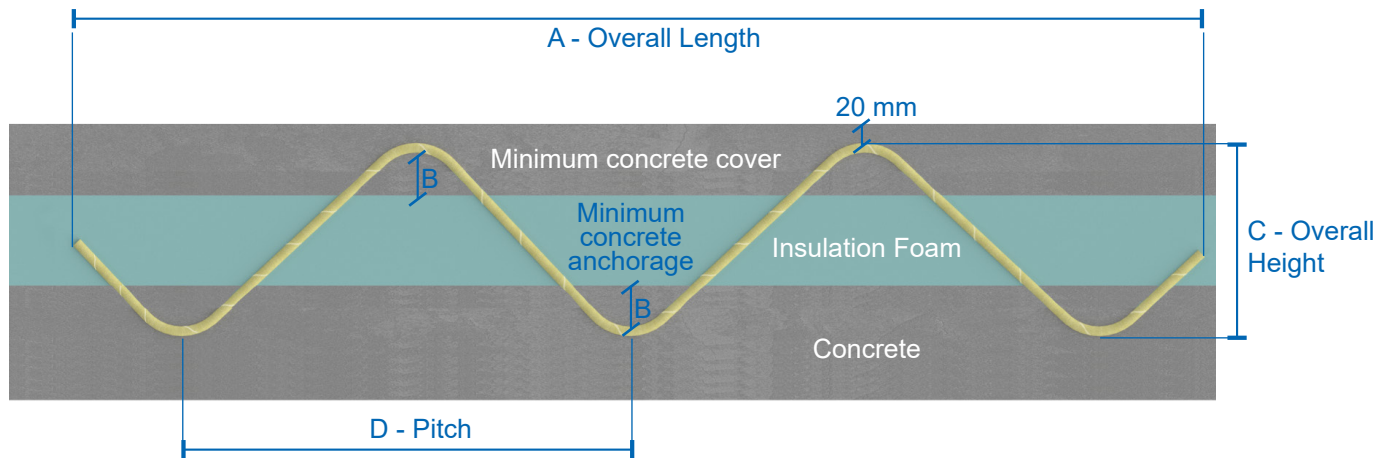
**4.** Finish by pouring concrete onto the formwork.



**5.** Once the concrete has set, the panel is ready to be demolded and installed in place.



## TieTec Application



## Technical Information

Mechanical properties and performance of the straight portion of Precast Tie.

Nominal Diameter : 10 and 13mm

Product Reference	Tracer Color	A-Overall Length	B-Minimum Concrete Anchorage (min)	C-Overall Height	D-Pitch	Nominal Diameter	Nominal CSA
		mm	mm	mm	mm		
ASTECC TT10-150	Green	1150	20	150	485	10	71
ASTECC TT10-175	Red	1125	20	175	485	10	71
ASTECC TT10-200	Yellow	1115	20	200	485	10	71
ASTECC TT13-175	Green	1125	20	175	485	13	127
ASTECC TT13-200	Red	1115	20	200	485	13	127
ASTECC TT13-250	Yellow	1370	20	250	610	13	127

Note:

- Minimum Concrete compressive strength at 28 days to be 40 Mpa
- Minimum Concrete cover for the Tie-Tec to be 20mm
- Minimum pull out capacity is at 14 kN for all models

## Guidelines

Testing: ASTM D7205 | "Tensile Properties of Fiber Reinforced Polymers Matrix Composite Bars"

ACI 440.1R-15 Guide for the Design and Construction of Structural Concrete Reinforced with fiber reinforced polymer (FRP) rebars.



Commercial presence  
in more than **55** countries



**Dextra**

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