Galvanized PC strand

Providing durable strength to long spanning concrete structures

What can we offer you?
Corrosion of steel reinforcement is one of the most important factors affecting the life expectancy of your concrete structures. To tackle this issue Bekaert developed a range of low relaxation galvanized PC strands. Depending on your requirement we offer zinc coating levels up to 1 oz/ft² per ASTM A475. All galvanized strands have passed the ASTM A416 standard for 1,000 hour stress relaxation and are ASTM A1081 bond test certified.

To date, Bekaert is the only manufacturer of galvanized seven-wire strands that meet the ASTM A416 standard specification as well as the Buy America provisions.

Benefits

- **Long lifetime**: Bekaert galvanized PC strands feature a long-term protection against corrosion caused by chloride salts, pollutants and concrete carbonation. It does this without weakening or changing the composition of the basic material.
- **Cost-effective solution**: Compared to alternatives like black steel and stainless steel, certified galvanized PC strands have a low life cycle cost which will significantly reduce your overall costs.

Increased performance

Bekaert galvanized PC strands create a superior bond between steel and concrete. They also create up to seven times less corrosion byproducts compared to black steel. This reduces the risk of stress induced cracking and accelerated deterioration.

Why choose Bekaert?

The coating specialist
We can provide you with the most efficient and cost-effective corrosion prevention methods. In addition to various steel grades, diameters and shapes, we also have a wide range of corrosion resistant coatings.

Whatever feature is most important for you: strength, process-ability, weldability, aesthetics, corrosion or wear-resistance ... Bekaert can help.

Advanced testing facilities
Through exposition and electro-chemical techniques, lab technicians in our R&D facilities can investigate the quality, corrosion resistance and service life of our products in different applications and environments. In addition to the standard tests, our labs can also develop specific tests on request and perform outdoor exposure testing.

Our experience for your success
Because of the wide variety of industries we work in, we can incorporate the skills we have developed across our platforms to discover new products or solutions for you. Strength through synergy, that’s what we can offer you.

Chlorides Air/Co₂ Acids Water Pollutants

![Diagram showing corrosion process](image)

Induced stress cracking and spalling due to black steel corrosion.

![Diagram showing corrosion areas](image)

Corrosive active state

Anodic Zone Cathodic Zone

![Diagram showing corrosion areas](image)
Bekaert is a world market and technology leader in steel wire transformation and coating technologies. To be the preferred supplier of steel wire products and solutions, we consistently deliver superior value to our customers worldwide. Bekaert (Euronext Brussels: BEKB) was established in 1880 and is a global company with approximately 30,000 employees worldwide.

Applications
- **Road and bridge construction** including bridge piles and caps, I-beams, hybrid composite beams, girders, bridge decks, viaducts and aqueducts.
- **Commercial construction** such as roof support, hollow core slabs, beams, TT-slabs, railway sleepers and parking garage barriers.
- **Foundation reinforcement** for windmills, electrical towers and other industrial constructions.
- **Roof and rib wall reinforcement cables** for mining constructions.

Bekaert galvanized PC strand in practice

**Challenge**
The Tappan Zee Bridge is a state of the art cantilever bridge that is being built in the U.S. state of New York. While designing the piles caps on which the bridge rests, engineers needed a unique reinforcement solution for the pile caps that would help insure the 100 year bridge life goal.

**Solution**
New York State Thruway Authority approved the use of Bekaert galvanized PC strand based on its proven performance, certified quality and domestic manufacturing.

**Product range**
Commercial grade strands are available in 0.5", 0.6", and 0.7" diameters. Special grade strands include 0.52" and 0.62" strands. Coating weights range from 0.10 oz/ft² up to 1 oz/ft².

<table>
<thead>
<tr>
<th>Nominal strand diameter*</th>
<th>0.50&quot;</th>
<th>0.60&quot;</th>
<th>0.70&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade (per A416)</td>
<td>270</td>
<td>270</td>
<td>270</td>
</tr>
<tr>
<td>Nominal area of strand</td>
<td>0.153 in²</td>
<td>0.217 in²</td>
<td>0.294 in²</td>
</tr>
<tr>
<td>Nominal weight</td>
<td>542 lbs/1,000 ft</td>
<td>767 lbs/1,000 ft</td>
<td>1040 lbs/1,000 ft</td>
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<tr>
<td>Minimum breaking strength</td>
<td>41,300 lbs</td>
<td>58,600 lbs</td>
<td>79,400 lbs</td>
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<tr>
<td>Minimum load at 1% extension</td>
<td>37,170 lbs</td>
<td>52,740 lbs</td>
<td>71,500 lbs</td>
</tr>
<tr>
<td>Minimum total elongation under load in 24&quot; gauge length</td>
<td>3.5%</td>
<td>3.5%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Strand diameter tolerance</td>
<td>±0.026/-0.006 in</td>
<td>±0.026/-0.006 in</td>
<td>±0.026/-0.006 in</td>
</tr>
<tr>
<td>Coating weight</td>
<td>0.10 - 0.90 oz/ft²</td>
<td>0.10 - 1.0 oz/ft²</td>
<td>0.10 - 1.0 oz/ft²</td>
</tr>
</tbody>
</table>

* Other diameters are available on request.