DYWIDAG Micropiles – GEWI® Piles
**Basic Concept**

A **GEWI®** Pile is a drilled and grouted micropile, with a diameter of less than 12 inches. It is centrally reinforced with either one or a group of DYWIDAG THREADBARS. The deformations on the bar transfer the load into the surrounding grout body and friction transfers the load from the grout into the ground.

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**Key Features**

- Compact lightweight drilling equipment allows for pile installation even in areas with low headroom
- Small economic drill hole diameters
- Drill holes can be placed closely to existing walls or structures
- Vibration free drilling prevents damage to adjacent structures
- Double Corrosion Protected (DCP) bars may be utilized for piles in aggressive ground.

---

**GEWI® Pile with Single Corrosion Protection (SCP)**

- DYWIDAG THREADBAR®
- Hex Nut
- Bearing Plate
- Hex Nut
- Concrete Structure
- Drilled Hole
- Cement Grout (field installed)
- Coupler
- Plastic Centralizer
- End Cap

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- Bearing Plate
- Hex Nut
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- Coupler with Corrosion Protection
- Plastic Centralizer
- End Cap

**Micropile with DYWI® Drill Hollow Bar**

- DYWI® Drill Hollow Bar
- Hex Nut
- Bearing Plate
- Hex Nut
- Concrete Structure
- Drilled Hole
- Cement Grout (injected during drilling process)
- Coupler
- Drill Bit

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## DYWIDAG Micropiles – GEWI® Piles

### GRADE 75, 80 DYWIDAG THREADBAR® – Reinforcing Steel per ASTM A615

<table>
<thead>
<tr>
<th>THREADBAR® Designation</th>
<th>Maximum THREADBAR® Diameter</th>
<th>Minimum Yield Stress (f_y)</th>
<th>Nominal Cross Section Area (A_s)</th>
<th>Minimum Yield Load (f_y x A_s)</th>
<th>Nominal Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[mm]</td>
<td>[in]</td>
<td>[ksi]</td>
<td>[MPa]</td>
<td>[in²]</td>
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<tr>
<td>#6</td>
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<td>75</td>
<td>517</td>
<td>0.60</td>
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<tr>
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<td>75</td>
<td>517</td>
<td>0.79</td>
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<tr>
<td>#9</td>
<td>29</td>
<td>1.26</td>
<td>75</td>
<td>517</td>
<td>1.00</td>
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<td>1.27</td>
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<tr>
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</table>

Note: Maximum allowable temporary tension is 90% of minimum yield load. Mill length is 60 ft (#6 through #24) and 53 ft for #28.

* Threadbar sizes not listed by ASTM A 615 but yield strength is in conformance with A615 standard.

### GRADE 100 DYWIDAG THREADBAR® – Reinforcing Steel per ASTM A615

<table>
<thead>
<tr>
<th>THREADBAR® Designation</th>
<th>Maximum THREADBAR® Diameter</th>
<th>Minimum Yield Stress (f_y)</th>
<th>Nominal Cross Section Area (A_s)</th>
<th>Minimum Yield Load (f_y x A_s)</th>
<th>Nominal Weight</th>
</tr>
</thead>
<tbody>
<tr>
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<td>[in]</td>
<td>[ksi]</td>
<td>[MPa]</td>
<td>[in²]</td>
</tr>
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<tr>
<td>#8</td>
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<tr>
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<td>1.26</td>
<td>100</td>
<td>689</td>
<td>1.00</td>
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<tr>
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<td>1.43</td>
<td>100</td>
<td>689</td>
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<tr>
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<td>57</td>
<td>2.50</td>
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<td>4.00</td>
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<td>#20</td>
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<td>2.72</td>
<td>100</td>
<td>689</td>
<td>4.91</td>
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Note: Maximum allowable temporary tension is 90% of minimum yield load. Mill length is 60 ft.

### GRADE 150 DYWIDAG THREADBAR® – Prestressing Steel per ASTM A722

<table>
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<tr>
<th>THREADBAR® Designation</th>
<th>Maximum THREADBAR® Diameter</th>
<th>Minimum Ultimate Tensile Strength (f_u)</th>
<th>Nominal Cross Section Area (A_s)</th>
<th>Minimum Ultimate Tensile Load (f_u x A_s)</th>
<th>Nominal Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>[mm]</td>
<td>[ksi]</td>
<td>[MPa]</td>
<td>[in²]</td>
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<td>150</td>
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<td>0.85</td>
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<tr>
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<td>32</td>
<td>1.445</td>
<td>150</td>
<td>1,034</td>
<td>1.25</td>
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<tr>
<td>1 ¾</td>
<td>36</td>
<td>1.630</td>
<td>150</td>
<td>1,034</td>
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</tr>
<tr>
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<td>2.482</td>
<td>150</td>
<td>1,034</td>
<td>4.08</td>
</tr>
<tr>
<td>2 ½</td>
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<td>150</td>
<td>1,034</td>
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<td>75</td>
<td>3.146</td>
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<td>1,034</td>
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</tbody>
</table>

Note: Maximum allowable temporary test tension is 80% of minimum ultimate tensile load. Mill lengths are 60 ft for 1", 1 ¼", 1 ¾" and 1 ¾" and 45 ft for 2 ¼", 2 ½" and 3" bars.

* Threadbar size not listed in the ASTM A 722 but its strength is in conformance with this standard.

WARNING: DO NOT WELD on or near A722 prestressing bars or their anchorages.

For Hollow Bar Properties see: DYWI® Drill Hollow Bar System Brochure
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