Form Tie Bars

LIBERTY Ostrava
www.libertysteelgroup.com
LIBERTY Ostrava is an integrated steel business with an annual production capacity of approximately 3.6 million tonnes serving construction, machinery and oil & gas industries.

The company is a domestic leader in the manufacture of road barriers and tubes. In addition to the Czech market, it supplies its products to more than 40 countries around the world. Together with its subsidiaries in Ostrava, the company has 6,000 employees. The company manufactures its products with a minimum possible environmental footprint. It is part of LIBERTY Steel Group, which is part of GFG Alliance, a collection of global businesses and investments owned by Sanjeev Gupta and his family. The Alliance is structured into three core industrial pillars: LIBERTY Steel Group, ALVANCE Aluminium Group and SIMEC Energy Group. Headquartered in London, GFG Alliance employs 35,000 people, across 10 countries and has revenues of USD $20bn.

**Liberty Ostrava Facilities**
- 3 coke oven batteries
- 5 sinter belts
- 3 blast furnaces (2 operational)
- 4 tandem furnaces
- 3 continuous casting machines
- 6 rolling mills (incl. hot-strip mill, big and small Stiefel pipe mills, wire rod mill, heavy section mill, fine & medium section mill)
- Mine support and road barrier lines

**Main Products**
- Hot rolled coils, sheets and strips, road barriers, merchant bars and sections, wire rods, tubular steels, mine supports, engineering products, transformer cores, threaded bars, rebars, hot rolled spring steel flat bars

**Key Markets**
- Construction, machinery and automotive

**Certification**
- ISO 9001
- ISO 14001
- OHSAS 18001
- ISO 50001
Form Tie Bars

Technical Characteristics of the System
- Easy length adjustment, due to the entire coarse thread over the whole length of the bar
- Shortening by cutting and extension by accessories also possible on the construction site
- Easier to screw compared to standard threads
- The coarse thread is resistant to rough handling and dirt, because the coarse thread cleans itself during assembling

Service
- Worldwide shipments including all administrative formalities
- Fast communication, flexibility & reliability
- On time delivery
- Quick and accurate document handling

On Request
- Special lengths & bundling
- Charpy test-Value: 28 J at -20 °C for diameter 15 and 20 mm

Technical Specification
Grade 160, St 900/1100

Liberty Offers
- Ø 15 mm in length of 6000 mm or 12000 mm [bundles of 100 bars]
- Ø 20 mm in length of 6000 mm or 12000 mm [bundles of 75 bars]
- Ø 26.5 mm in length of 6000 mm or 12000 mm [bundles of 50 bars]
- Certifications in different markets
- Marking of the bar and traceability of the product

<table>
<thead>
<tr>
<th>Diameter [mm]</th>
<th>Yield Load (min) [kN]</th>
<th>Ultimate Load (min) [kN]</th>
<th>Elongation A_{5%} (min) [%]</th>
<th>Elongation A_{10%} (min) [%]</th>
<th>Weight [kg/m]</th>
<th>Area [mm²]</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>155</td>
<td>190</td>
<td>4</td>
<td>7</td>
<td>1.41</td>
<td>172</td>
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<tr>
<td>20</td>
<td>279</td>
<td>340</td>
<td>4</td>
<td>7</td>
<td>2.51</td>
<td>309</td>
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<tr>
<td>26.5</td>
<td>495</td>
<td>606</td>
<td>4</td>
<td>7</td>
<td>4.48</td>
<td>551</td>
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</tbody>
</table>

By using of the Liberty Form Tie Bars you are assured that all above criteria are satisfied, which will be specified in a 3.1 certificate issued of each delivery.
Accessories

Hex Nut

<table>
<thead>
<tr>
<th>Article No.</th>
<th>SW [mm]</th>
<th>L [mm]</th>
<th>Weight [kg]</th>
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</thead>
<tbody>
<tr>
<td>15 FT 2102/50</td>
<td>30</td>
<td>50</td>
<td>0.22</td>
</tr>
<tr>
<td>15 FT 2102/70</td>
<td>30</td>
<td>70</td>
<td>0.30</td>
</tr>
<tr>
<td>20 FT 2102/70</td>
<td>36</td>
<td>70</td>
<td>0.40</td>
</tr>
<tr>
<td>26 FT 2102/60</td>
<td>46</td>
<td>60</td>
<td>0.54</td>
</tr>
<tr>
<td>26 FT 2102/80</td>
<td>46</td>
<td>80</td>
<td>0.74</td>
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</table>

Coupler with Pin

<table>
<thead>
<tr>
<th>Article No.</th>
<th>SW [mm]</th>
<th>L [mm]</th>
<th>Weight [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 FT 3198/90</td>
<td>30</td>
<td>90</td>
<td>0.40</td>
</tr>
<tr>
<td>15 FT</td>
<td>30</td>
<td>105</td>
<td>0.45</td>
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<tr>
<td>20 FT</td>
<td>36</td>
<td>130</td>
<td>0.74</td>
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<tr>
<td>26 FT</td>
<td>46</td>
<td>120</td>
<td>1.09</td>
</tr>
<tr>
<td>26 FT</td>
<td>46</td>
<td>150</td>
<td>1.36</td>
</tr>
</tbody>
</table>

Hex Coupler with Pin
Contact with the mill

Europe

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