A Joint Venture of

Atlantic Track & Turnout Co.

With over 80 years of experience, Atlantic Track & Turnout is a major supplier of single source solutions to American railroad and transit organizations. Atlantic Track provides railroad track materials and third rail systems and offers assistance in pre-project planning. In addition, Atlantic Track counts on in-depth knowledge of American transit systems that it contributes to MRT Track & Services.

MRT Track and Services Co., Inc.

ThyssenKrupp GfT Gleistechnik, the railroad division of Thyssen-Krupp, is a leading special trackwork manufacturer and international single source supplier of railroad track materials and services. ThyssenKrupp GfT has the technical know-how to provide product solutions to subway, LRT and MRT systems world-wide. ThyssenKrupp GfT's speciality is the supply of custom designed and engineered track and turnout systems.

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Capabilities

Planning and engineering
- Individual design of special trackwork
- Feasibility study
- Project management support

Materials Supply
- Rails (T-rails, 3rd rail, girder rails, special rail section)
- Turnouts, Crossings
- Ties
- Fastening systems
- Accessories

Value added Service
- Warehousing
- Maintenance
- Mobile flash butt welding
- Just-in-time delivery
- Transportation and Logistics
- Spare parts
Innovative and state-of-the-art solutions for **Mass Rapid Transit systems**

- Rails
- Special Trackwork
- Rail fastening systems
- Ties (wooden, concrete, steel, Y-steel ties)
- Logistics: stock keeping, spare part
- Planning and engineering
- Financing

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## T-rails

Extract of the most commonly used T-rail sections:

<table>
<thead>
<tr>
<th>Rail section</th>
<th>Weight</th>
<th>Height (H)</th>
<th>Rail foot (F)</th>
<th>Rail head (C)</th>
<th>Rail web (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 RA (ARA-A90)</td>
<td>89.98 (44.64)</td>
<td>5-5/8&quot; (142.88 mm)</td>
<td>5-1/8&quot; (130.18 mm)</td>
<td>2-9/16&quot; (65.09 mm)</td>
<td>9/16&quot; (14.29 mm)</td>
</tr>
<tr>
<td>100 RB (ARA-B 100)</td>
<td>100.00 (49.61)</td>
<td>5-41/64&quot; (143.27 mm)</td>
<td>5-9/64&quot; (130.57 mm)</td>
<td>2-21/32&quot; (67.47 mm)</td>
<td>9/16&quot; (14.29 mm)</td>
</tr>
<tr>
<td>115 RE</td>
<td>115.00 (57.05)</td>
<td>6-5/8&quot; (168.28 mm)</td>
<td>5-1/2&quot; (139.7 mm)</td>
<td>2-23/32 (69.06 mm)</td>
<td>5/8&quot; (15.88 mm)</td>
</tr>
<tr>
<td>136 RE</td>
<td>132.00 (65.49)</td>
<td>7-1/8&quot; (180.98 mm)</td>
<td>6&quot; (152.4 mm)</td>
<td>3&quot; (76.2 mm)</td>
<td>21/32&quot; (16.67 mm)</td>
</tr>
<tr>
<td>136 RE</td>
<td>136.00 (67.47)</td>
<td>7-5/16&quot; (185.74 mm)</td>
<td>6&quot; (152.4 mm)</td>
<td>2-15/16&quot; (74.61 mm)</td>
<td>11/16&quot; (17.46 mm)</td>
</tr>
<tr>
<td>41E1 (S41-R10)</td>
<td>83.13 (41.24)</td>
<td>5.4331&quot; (138 mm)</td>
<td>4.9213&quot; (125 mm)</td>
<td>2.6378&quot; (67 mm)</td>
<td>0.4724&quot; (12 mm)</td>
</tr>
<tr>
<td>49E1 (S49)</td>
<td>99.56 (49.39)</td>
<td>5.8661&quot; (149 mm)</td>
<td>4.9213&quot; (125 mm)</td>
<td>2.6378&quot; (67 mm)</td>
<td>0.5512&quot; (14 mm)</td>
</tr>
<tr>
<td>54E1 (UIC54)</td>
<td>110.40 (54.77)</td>
<td>6.2598&quot; (159 mm)</td>
<td>5.5118&quot; (140 mm)</td>
<td>2.7559&quot; (70 mm)</td>
<td>0.6299&quot; (16 mm)</td>
</tr>
</tbody>
</table>
**Girder rails**

Extract of the most commonly used girder rail sections:

<table>
<thead>
<tr>
<th>Rail section</th>
<th>Weight lbs/yd (kg/m)</th>
<th>Height (H)</th>
<th>Rail foot (F)</th>
<th>Rail head (C)</th>
<th>Groove (G)</th>
<th>Rail web (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ri59-13, Ri59N</td>
<td>117.19 (58.14)</td>
<td>7.0866&quot; (180 mm)</td>
<td>7.0866&quot; (180 mm)</td>
<td>4.4488&quot; (113 mm)</td>
<td>1.6740&quot; (42.52 mm)</td>
<td>0.4724&quot; (12 mm)</td>
</tr>
<tr>
<td>Ri59-10, Ri59</td>
<td>118.87 (59.97)</td>
<td>7.0866&quot; (180 mm)</td>
<td>7.0866&quot; (180 mm)</td>
<td>4.4488&quot; (113 mm)</td>
<td>1.6535&quot; (42 mm)</td>
<td>0.4724&quot; (12 mm)</td>
</tr>
<tr>
<td>Ri60-13, Ri60N</td>
<td>120.44 (60.75)</td>
<td>7.0866&quot; (180 mm)</td>
<td>7.0866&quot; (180 mm)</td>
<td>4.4488&quot; (113 mm)</td>
<td>1.4307&quot; (36.34 mm)</td>
<td>0.4724&quot; (12 mm)</td>
</tr>
<tr>
<td>Ri60-10, Ri60</td>
<td>122.13 (60.59)</td>
<td>7.0866&quot; (180 mm)</td>
<td>7.0866&quot; (180 mm)</td>
<td>4.4488&quot; (113 mm)</td>
<td>1.4173&quot; (36 mm)</td>
<td>0.4724&quot; (12 mm)</td>
</tr>
<tr>
<td>Ri52-13</td>
<td>103.55 (51.37)</td>
<td>5.1181&quot; (130 mm)</td>
<td>5.9055&quot; (150 mm)</td>
<td>4.4488&quot; (113 mm)</td>
<td>1.6740&quot; (42.52 mm)</td>
<td>0.4724&quot; (12 mm)</td>
</tr>
<tr>
<td>Ph37</td>
<td>113.97 (56.54)</td>
<td>7.1654&quot; (182 mm)</td>
<td>5.9055&quot; (150 mm)</td>
<td>6&quot; (152 mm)</td>
<td>2.3803&quot; (60.46 mm)</td>
<td>0.4331&quot; (11 mm)</td>
</tr>
<tr>
<td>Ph37A</td>
<td>134.87 (65.91)</td>
<td>7.0866&quot; (180 mm)</td>
<td>7.0866&quot; (180 mm)</td>
<td>5.3150&quot; (135 mm)</td>
<td>2.3858&quot; (60.60 mm)</td>
<td>0.5118&quot; (13 mm)</td>
</tr>
</tbody>
</table>
Special rail sections

Extract of the most commonly used special rail sections:

<table>
<thead>
<tr>
<th>Rail section</th>
<th>Weight lbs/yd (kg/m)</th>
<th>Height (H)</th>
<th>Rail foot (F)</th>
<th>Rail head (C)</th>
<th>Rail web (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UIC33, R1-60, U69</td>
<td>66.36 (32.92)</td>
<td>3.6614&quot; (93 mm)</td>
<td>1.5748&quot; (40 mm)</td>
<td>3.1496&quot; (80 mm)</td>
<td>0.7874&quot; (20 mm)</td>
</tr>
<tr>
<td>Zu2-49</td>
<td>127.27 (63.14)</td>
<td>4.5669&quot; (116 mm)</td>
<td>5.5118&quot; (140 mm)</td>
<td>2.6378&quot; (67 mm)</td>
<td>1.5748&quot; (40 mm)</td>
</tr>
<tr>
<td>ZuUIC54B</td>
<td>138.98 (68.95)</td>
<td>5.0787&quot; (129 mm)</td>
<td>5.7874&quot; (147 mm)</td>
<td>2.7559&quot; (70 mm)</td>
<td>1.5748&quot; (40 mm)</td>
</tr>
</tbody>
</table>
Contact rail

MRT Track & Services offers a wide range of contact rail used for power transmission in transit systems from the traditional 150-lb. rail to the more advanced 85C and 84C composite rail sections.

Insulators
Insulators are available in molded fiberglass or porcelain, in different heights with different base designs and can accommodate the many types of contact rail currently in use. MRT Track & Services will custom design to meet your specific requirements.

Coverboard
Pultruded fiberglass coverboards come in many different shapes and sizes. While lightweight fiberglass coverboards are both strong and durable, UV protection can be added to give the coverboards even longer life when required. A wide range of engineering and testing services are available to ensure that your specific needs are met.

Brackets
Brackets for holding the coverboards in place are available in designs to match the requirements of your third rail, coverboard and insulator system. Brackets can be manufactured with molded fiberglass or fabricated metal.
Y-steel tie

- special section IB 100S (cold formed 20.8 kg/m)
- lower crossbar to generate lateral resistance
- upper traverse crossbar for compensation of horizontal forces
- fork with flexible deflection
- rail fastening element S 15
- intermediate spacer with supports and exchangeable inlays
- tension clamp Skl 14, pre assembled
- 2000 mm

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Advantages and application of Y-steel tie

**Application**
- Ballasted track
- Slab track
- Areas of restricted height and width (e.g. tunnels)
- Steep gradients
- Tight curvature radii
- Turnouts
- Level crossings
- Narrow gauge
- Tracks with conductor rail ramps and guide rails

**Advantages**
- High lateral resistance to transverse displacement
- Low height
- Entire electrical insulation
- Longer service life - life expectancy 70 years
- Fully recyclable material
- Economic solution. Compared to standard wooden ties, a Y-steel tie track requires
  a) 50% fewer sleepers per mile of track
  b) 30% less ballast
  c) 30% fewer fastening points
Rail mounting system RAILFLEX

designed for embedded tracks in LRT and MRT

1) 50 mm asphalt base course CS
7) 110 – 130 mm liquid concrete B25
8) 40 or 47 mm asphalt binder
9) 40 mm fair course
10) elastic, electrically insulating chamber elements
   a) external  b) internal
11) bituminous casting compound

2) 1,800 mm grooved rail
3) elastic food casing section
4) 10-30 mm bituminous rail sub-cast or MINEX GROUT mortar
5) KRUPP sub-sett paving anchor arms
6) elastic anchor arm casing 40 x 65
12) nut M24 with cover cap#
13) spring ring
14) insulation clamp
15) threaded rod M24

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Application for RAILFLEX

Coverages:
- Asphalt
- Concrete
- Natural sett paving
- turf

Installation of the RAILFLEX-system
Bumping posts

- Suitable for T-rail as well as girder rail
- New developments: no torque wrench required, retrofitting into older types possible.
- Short installation time
- Hydraulic devices possible
- ISO 9001 licensed manufacturer
- Individually engineered
- Use as fixed or friction bumping post

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Turnouts and Crossings

Products and capability:
• Design/manufacture of:
  • T-rail turnouts and crossings for urban transit and long-distance rail traffic with American and European rail sections
  • girder rail turnouts
  • switches
  • crossings
  • tongue rails
  • guard rails
  • expansion joints
  • compromise joints
• Heat treatment of rails and turnout components
Trackwork

- Planning and manufacturing of complete track systems
- Turnout design tailored to customer specification
- Modern 2D and 3D CAD-systems
- State of the art production line with CNC controlled cutting, planing and shaping machines
- Head hardening by pearlitical heat treatment
Product Development
Wear resistant steel XAR® 400 - Crossings, tongue rails and stock rails
Characteristics of XAR 400 steel

The wear resistant steel XAR® 400 can increase product service life to five times that of conventional structural steel. XAR® 400 combines high wear resistance with good weld ability.

Chemical composition (heat analysis, %)

<table>
<thead>
<tr>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
<th>Cr</th>
<th>Mo</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤0.20</td>
<td>≤0.80</td>
<td>≤1.50</td>
<td>≤0.025</td>
<td>≤0.010</td>
<td>≤1.00</td>
<td>≤0.50</td>
<td>≤0.005</td>
</tr>
</tbody>
</table>

Hardness at room temperature in delivery condition: 360 - 440 BHN

Turnout components made of XAR® 400 are the solution for problems and cost increases resulting from wear and abrasion. Due to the high level of hardness of the XAR® 400 steel and their quenching and tempering heat treatment, abrasion can be minimized and product service life extended.
Elastic Compact Fastener (ECF)

Application:
- Slab track
- Concrete sleepers for slab track
- Continuous concrete beam

Advantages:
- Vibration absorbing
- Vertically and laterally adjustable
- Fully electrically insulated
- Time and cost-saving installation

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Crossing with linear displaceable frog

The Linear Displaceable Frog (LDF) was developed to reduce the wear inside the frog to a minimum. Due to slideable frog centers, the crossing with Linear Displaceable Frogs always simulates a normal track and allows for a continuous rail running without interruptions. The use of guard rails is no longer required. It is possible to omit track guiding and the application of specially hardened material for the frog. A reduction of running speed in the crossing area is not mandatory any more.

Crossings with Linear Displaceable Frogs are most suitable for all track gauges requested for urban traffic and long-distance traffic. The Linear Displaceable Frog can be combined with any rail section.

The installation of the Linear Displaceable Frog not only enhances the riding comfort by simulating a normal track, but reduces wear to a minimum. This finally increases the safety of the track system while at the same time reducing the maintenance costs.

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MRT Track and Services offers both new and used treated railroad ties. Ties are available in 6 inch and 7 inch widths and in various grades.

Track Panels provide a quick and economical way to replace tracks in busy, high-volume areas. Panels can be built with either new or relay rail to match your track conditions.

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Accessories

• Cable ducts
• Grating and hand railing
• Bumping posts
• Derails
• Drainage boxes
• Track tools
• Wheel stops
• Switch stands
• Signs
• .....
Bloomfield, NJ
Phone: 1-973-748-8899
Fax: 1-973-748-9243

Bill Roan
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