Large Diameter Linepipe Market: Update and Outlook

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MBR – who we are

• Established in 1991 and part of the Metal Bulletin group, MBR provides independent market analysis of the global metals & mining industry.

• We use a global network of analysts, economists, and contributors to provide monthly publications, special in-depth studies and consultancy services in carbon steels, stainless steels, base metals and emerging markets.

• Over the last 4-5 years, MBR has gained expertise in the steel tube and pipe markets through consultancy and our Welded Steel Tube & Pipe Monthly and Seamless Steel Tube & Pipe Monthly reports. In October, we launched the new American Tube & Pipe Monthly.
Presentation Structure

• Steel Market Overview
• Trends / Topics In Global Line Pipe Market
• Supply / Demand Considerations
• Pricing Trends & Forecast
• Summary Observations
Steel market conditions

• Rising raw material costs are a global problem for steelmakers… which trickles down to tube makers/buyers
  – Iron ore: FY2008 Benchmark contracts up 71%
  – Coking coal/coke: seeing significant cost increases
  – US Scrap: as much as $150-200/l.ton higher than December 2007
  – Ferro-alloys, energy, electricity, freight: all rising

• Consolidation
  – Financing concerns expected to slow rate of consolidation in 2008, but we are heading toward a few 100m tpy producers

• Prices rising and becoming more volatile
  – Futures contracts promise to minimize risk, but mills are resistant
    • DGCX – rebar mini contract launched in 2007
    • NYMEX – 2008 launch (?)
    • LME – 2008 launch (?)
MBR’s raw materials index

• Up 31% in 2008
HR prices vs. Raw Materials Index

HR price up 38% since the start of the year
Plate prices vs. Raw Materials Index

Plate price up 12% since the start of the year
Steel market conditions, plate

- Plate seeing continuing growth in global demand (~3%/year)
  - Energy (linepipe, rigs, wind)
  - Shipbuilding (Asia, especially)
  - Heavy equipment/transportation (railcars and barges)
  - Infrastructure

- Tight supplies for heavy plate for pipemaking
  - 10-11m tonnes produced compared to 88m total plate in 2006
  - Historically dominated by EU (<3.5m vs. 13m) and Japan (2m vs. 13m), China entering mkt. (2m vs. 38.5m)
  - Few producers in North America (greater capacity from Mittal, Ipsco, etc)
  - Difficult for plate mills to switch between API plate and other industrial plate

- Prices for pipemaking plate and coil
  - Prices increasing, but less volatility compared to other flat products
  - Margins remain buoyed by demand and producers can pass rising feedstock costs to buyers – the Q2 price increases are starting to work into the market
Plate vs. HR prices

*Spot commodity prices. Plate and coil for API pipe production will carry a premium to commodity steel.
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Large diameter linepipe market overview

• Strong market globally, characterized by long lead times (6-18 months in USA, 12+ months in Europe/Russia)
  – Ipsco, Berg – longer than others
  – Increasing demand from N. Europe, Asia and North America

• Growing/New entrants in this market:
  – Russia, India, Iran, UAE

• Demand/output of higher grades growing (X80-X120)
  – Meeting strict requirements of offshore/deep-sea projects
    • outside of NA

• North America: onshore requirements – LSAW and spiral
  – Natural gas, LNG
ERW market overview

- 2006 production was about 11m tonnes
- Unconsolidated market, becoming consolidated
- USA has higher production of ERW pipe than LSAW or HSAW, due to the wide use of ERW pipe for the OCTG market here
- Emerging market producers account for 45-50% of global production
- Major exporters to the USA include South Korea and China
Asia: increasing production

- Chinese LD linepipe production estimated at ~2-3m tpy
  - Not all API grade; used for water transmission pipe
- Production growing rapidly
  - Baosteel producing X120 LSAW
  - These mills will look to gain market share in supplying to Asian projects, thus freeing up capacity (Japan, S. Korea, Europe) for other projects (USA, Latin America, Russia)
- China averaged 63,000 tpm in net exports in 2007
- Tax rebates for all non-API grade welded pipe have been eliminated – API linepipe and OCTG rebates remain
- US duties of 31% remain on Japanese large OD linepipe
  - Exports 11,000 tpm on average to USA
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Middle East: developing internal supply sources to meet demand

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Capacity (000 tonnes)</th>
<th>Dimensions</th>
<th>Type</th>
<th>Start-up</th>
<th>2007 output (est.)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuwait Pipe</td>
<td>Kuwait</td>
<td>130</td>
<td>6-80&quot;</td>
<td>Spiral</td>
<td>1966</td>
<td>100</td>
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<tr>
<td>Hyo Jong</td>
<td>Qatar</td>
<td>150</td>
<td>26-140&quot;</td>
<td>Spiral</td>
<td>2002</td>
<td>120</td>
</tr>
<tr>
<td>Arabian Pipe</td>
<td>Saudi</td>
<td>300</td>
<td>16-48&quot;</td>
<td>UOE</td>
<td>2006</td>
<td>180</td>
</tr>
<tr>
<td>Arabian Pipe</td>
<td>Saudi</td>
<td>350</td>
<td>6-20&quot;</td>
<td>ERW</td>
<td>2000</td>
<td>280</td>
</tr>
<tr>
<td>Group 5 Pipe</td>
<td>Saudi</td>
<td>75</td>
<td>20-120&quot;</td>
<td>Spiral</td>
<td>2001</td>
<td>60</td>
</tr>
<tr>
<td>National Pipe</td>
<td>Saudi</td>
<td>360</td>
<td>20-84&quot;</td>
<td>Spiral</td>
<td>1999</td>
<td>300</td>
</tr>
<tr>
<td>National Pipe</td>
<td>Saudi</td>
<td>200</td>
<td>20-64&quot;</td>
<td>RB</td>
<td>2004</td>
<td>150</td>
</tr>
<tr>
<td>Saudi Steel Pipe</td>
<td>Saudi</td>
<td>160</td>
<td>0.5-16&quot;</td>
<td>ERW</td>
<td>1980</td>
<td>120</td>
</tr>
<tr>
<td>Adpico</td>
<td>UAE</td>
<td>250</td>
<td>0.25-6&quot;</td>
<td>ERW</td>
<td>2005</td>
<td>120</td>
</tr>
<tr>
<td>Adpico</td>
<td>UAE</td>
<td>500</td>
<td>8-24&quot;</td>
<td>ERW</td>
<td>2007</td>
<td>50</td>
</tr>
<tr>
<td>Nova Industries</td>
<td>UAE</td>
<td>75</td>
<td>16-80&quot;</td>
<td>Spiral</td>
<td>2007</td>
<td>20</td>
</tr>
</tbody>
</table>

* linepipe only
Source: MBR

Middle East linepipe self-sufficiency is freeing up capacity in Europe and India
Europe: beginning to export more to NA

European net exports of LD welded linepipe

- Europipe, Corinth, RIVA, Corus
- Capacity in the EU27: just under 4m tpy of welded large OD linepipe
- Major trading partners: Middle East, USA, Russia and Asia
- Middle East capacity increasing and we see a decline in exports to this region…
- …as exports to USA increased last year
- Net exports average 113,000 tpm in 2006-07

Source: Customs statistics, MBR
North America: US imports of large OD pipe have been rising

Despite the weakening dollar and high freight charges, US large OD linepipe imports increased through 2007.
New linepipe capacity in North America eyes production cost savings

New North American linepipe capacity ('000 tons)

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Type</th>
<th>Capacity</th>
<th>Diameters</th>
<th>Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ipsco-expansion</td>
<td>Regina, SK</td>
<td>Spiral</td>
<td>200</td>
<td>24-60&quot;</td>
<td>Q1 2008</td>
</tr>
<tr>
<td>Berg Spiral Pipe</td>
<td>Mobile, AL</td>
<td>Spiral</td>
<td>180</td>
<td>24-60&quot;</td>
<td>Q4 2008</td>
</tr>
<tr>
<td>PSL</td>
<td>Bay St. Louis, MI</td>
<td>Spiral</td>
<td>300</td>
<td>24-60&quot;</td>
<td>Q3 2008</td>
</tr>
<tr>
<td>Man Industries</td>
<td>Little Rock, AR</td>
<td>Spiral</td>
<td>300</td>
<td>20-100&quot;</td>
<td>Q1 2009</td>
</tr>
<tr>
<td>United Spiral Pipe</td>
<td>Pittsburg, CA</td>
<td>Spiral</td>
<td>300</td>
<td>24-64&quot;</td>
<td>Q2 2009</td>
</tr>
<tr>
<td>Stupp Corp</td>
<td>Baton Rouge, LA</td>
<td>Spiral</td>
<td>180</td>
<td>24-60&quot;</td>
<td>Q2 2009</td>
</tr>
<tr>
<td>Welspun</td>
<td>Little Rock, AR</td>
<td>Spiral</td>
<td>300</td>
<td>24-60&quot;</td>
<td>mid-2008</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>1,760</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note that all new capacity is Spiral, utilizing high-quality HR coil rather than plate.
Global large OD linepipe demand outlook

- Based on known projects
- High costs could result in the shelving or delay of projects

- World demand - Average over 19m tpy demand in 2007-09 (2006 output was just over 17m tonnes)

- North America - Majority onshore
  - Natural gas pipelines (HSAW)
  - Replacement and maintenance of existing lines

- Russia/Europe - Nordstream, Transneft, from Siberia, from Middle East

- Asia (China/India) - Infrastructure, from central Asia/Russia

Source: Simdex, MBR
LNG: A wildcard

Outlook for LNG imports to 2015

• LNG imports are expected to grow six-fold through 2015, sparking demand for infrastructure construction
  - 5.8Bcfd of existing LNG capacity
  - 36.6Bcfd has been approved
    - Bahamas
    - Hackberry, LA
    - Sabine, LA
    - Corpus Christi, TX
    - Pascagoula, MS
    - Offshore LA, Boston
  - 25Bcfd proposed

Source: EIA, MBR
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North American steel price forecast

The graph shows the price forecast for various types of steel from February 2006 to February 2009. The different types of steel include HR Coil, CR Coil, HDG, and Plate. The forecast indicates fluctuating prices over the years with peaks and troughs.
Global LSAW pipe prices, grade API 5L X65
- MBR understands that spiral (HSAW) mills are offering prices similar to LSAW due to market forces.

- HSAW production costs tend to run at a discount to LSAW
  - HR coil vs. plate
  - Lower capital costs
  - Quicker/ease of throughput

**US LSAW vs. HSAW prices:** The gap is narrowing and we believe pricing is even closer than our benchmark.

Source: MBR
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# US linepipe supply/demand balance

Supply-demand balance for large diameter (>16") linepipe in the USA

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Domestic Output (000 tons)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seamless (US Steel)</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>AISI ERW &amp; Spiral (Evraz Oregon)</td>
<td>31</td>
<td>69</td>
<td>90</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>AISI SAW (Berg Pipe)</td>
<td>114</td>
<td>114</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td>non-AISI SAW (Jindal)</td>
<td>160</td>
<td>190</td>
<td>220</td>
<td>300</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>non-AISI ERW &amp; Spiral (Stupp, NW etc.)</td>
<td>360</td>
<td>370</td>
<td>385</td>
<td>685</td>
<td>1,185</td>
<td>1,885</td>
</tr>
<tr>
<td><strong>Total output</strong></td>
<td>695</td>
<td>773</td>
<td>850</td>
<td>1,260</td>
<td>1,810</td>
<td>2,510</td>
</tr>
<tr>
<td>Imports (000 tons)</td>
<td>562</td>
<td>898</td>
<td>1,750</td>
<td>1,000</td>
<td>700</td>
<td>450</td>
</tr>
<tr>
<td>Exports (000 tons)</td>
<td>37</td>
<td>50</td>
<td>60</td>
<td>60</td>
<td>120</td>
<td>300</td>
</tr>
<tr>
<td><strong>Apparent supply (000 tons)</strong></td>
<td>1,220</td>
<td>1,621</td>
<td>2,540</td>
<td>2,200</td>
<td>2,390</td>
<td>2,660</td>
</tr>
<tr>
<td><strong>Apparent supply excl.water (000 tons)</strong></td>
<td>935</td>
<td>1,336</td>
<td>2,255</td>
<td>1,915</td>
<td>2,105</td>
<td>2,375</td>
</tr>
<tr>
<td>Planned oil and gas pipeline (kms)</td>
<td>10,980</td>
<td>15,580</td>
<td>17,350</td>
<td>25,300</td>
<td>16,500</td>
<td>15,000</td>
</tr>
<tr>
<td>Apparent consumption ton per km (for market to balance)</td>
<td>85</td>
<td>86</td>
<td>130</td>
<td>76</td>
<td>128</td>
<td>158</td>
</tr>
<tr>
<td><strong>Pipeline required to equal estimated supply (kms)</strong></td>
<td>10,980</td>
<td>15,580</td>
<td>17,350</td>
<td>25,300</td>
<td>24,765</td>
<td>27,941</td>
</tr>
<tr>
<td>Planned pipeline shortfall compared to supply (kms)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-8,265</td>
<td>-12,941</td>
</tr>
</tbody>
</table>

Source: AISI, MBR, Simdex

- There is potential for over-supply and falling prices after this year if all the planned new capacity comes to fruition.
- The average rate (tons/km) was ~85 in 2005-06, but increased to 130 in 2007 (larger OD pipes, inventory)
- At 85 t/km, oversupply would be 700,000 tons in 2009 and 1.1m in 2010
Welded Large OD outlook

- Short term (6-12 months) – definite demand for more capacity
  - Today’s long lead times will shrink, but prices will be upheld due to market balance and high substrate prices
  - Expanding capacity in North America will meet demand now satisfied by overseas pipe
  - Steelmaking costs are rising and will remain high
- Medium term (12-24 months) – strong growth in demand will give way to slower growth in demand
  - End to price surges and more stable pricing
- Longer term (beyond 2010) – potential for over-capacity
  - USA – we could see over-supply as soon as 2009-10
  - Globally and USA - plate capacity to rise, lower market prices
  - LSAW to HSAW premium to fall=competitive pressure
  - Prices to fall
    - Closures of inefficient capacity
    - Potential consolidation
    - Specialization in LSAW production (higher grades)
  - China? Excess capacity will always target exports
Thank you for your time!

If you have any questions regarding this presentation or AMMR/MBR’s research capability in any steel product sectors, please do not hesitate to contact me:

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