EXTRUSION FACILITIES IN EUROPE

Presentation By Pierre MÜNCH

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San Diego
EXTRUSION FACILITIES IN EUROPE

SPEAKER : PIERRE MÜNCH

MANAGING DIRECTOR OF :

• CEFIVAL - FRANCE
• HOESCH SCHWERTER PROFILE - GERMANY
• SIDERVAL - ITALY
EXTRUSION ANIMATION
WHO’S WHO...

Extrusion facilities in Europe able to handle large Titanium and steel alloys:

- CEFIVAL France
- HOESCH Germany
- SIDERVAL Italy
- OSBORN METAL UK
# COMPARATIVE CHART

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>PROFILE MAXIMUM CIRCUMSCRIBING</th>
<th>MAXIMUM WEIGHT per Ti BAR</th>
<th>PRESS STRENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEFIVAL</td>
<td>180mm</td>
<td>95kg</td>
<td>1650 T</td>
</tr>
<tr>
<td>HOESCH SCHWERTER PROFILE</td>
<td>250mm</td>
<td>150kg</td>
<td>2200 T</td>
</tr>
<tr>
<td>OSBORN STEEL EXTRUSIONS</td>
<td>150mm</td>
<td>60kg</td>
<td>1500 T</td>
</tr>
<tr>
<td>SIDERVAL</td>
<td>220mm</td>
<td>120kg</td>
<td>2400 T</td>
</tr>
</tbody>
</table>
MAIN MARKETS

CEFIVAL

- AEROSPACE 48%
- ARCHITECTURE 16%
- MECHANICALS 14%
- POWER GEN 9%

2005 SALES 16,2 M€
MAIN MARKETS

HOESCH

• MATERIAL HANDLING 63%
• AUTOMOTIVE INDUSTRY 10%
• STEEL PROCESSING IND. 4%
• ARCHITECTURE 4%

2005 SALES 125,5 M€
MAIN MARKETS

SIDERVAL

- MATERIAL HANDLING 22%
- STAINLESS STRUCTURALS 16%
- INDUSTRIAL EQUIPMENT 17%
- POWER GEN 5%

2005 SALES 26,5 M€
MAIN MARKETS

OSBORN STEEL EXTRUSIONS

- AEROSPACE AND DEFENSE  51%
- POWER GEN       11%
- PETROCHEMICAL  5%
- OTHERS          33%

2005 SALES 12 M€
## PRODUCTION CAPACITIES

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>CEFIVAL</th>
<th>HOESCH</th>
<th>SIDERVAL</th>
<th>OSBORN</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCTION IN METRIC TONS (2005)</td>
<td>2000 t.</td>
<td>5000 t.</td>
<td>11000 t.</td>
<td>1450 t.</td>
</tr>
<tr>
<td>MAXIMUM CAPACITY</td>
<td>5000 t.</td>
<td>18000 t.</td>
<td>15000 t.</td>
<td>5000 t.</td>
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</table>
LOGISTICS
## MAIN EQUIPMENTS

<table>
<thead>
<tr>
<th></th>
<th>Heat treatment</th>
<th>Pickling</th>
<th>Hot forming</th>
<th>Flash welding</th>
<th>Laser welding</th>
<th>Hot rolling</th>
<th>Cold drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEFIVAL</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>HOESCH</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SIDERVAL</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSBORN</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Year</td>
<td>Company</td>
<td>What</td>
<td>Amount</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
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<td>-------------------------------------------</td>
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<td></td>
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<tr>
<td>2006</td>
<td>Cefival</td>
<td>Automatic dye Refurdisching line Induction cell</td>
<td>2 M €</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2007</td>
<td></td>
<td>New Building 1950 T press</td>
<td>10 M €</td>
<td></td>
<td></td>
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<tr>
<td>2008</td>
<td></td>
<td>HOT forming stretching bench</td>
<td>2 M €</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Company</th>
<th>What</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>Hoesch</td>
<td>Plasma coating line Milling machine</td>
<td>4 M €</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td>Induction cell Stretching bench</td>
<td>4 M €</td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td>Rolling stand</td>
<td>7 M €</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Company</th>
<th>What</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td>Induction cells</td>
<td>1 M €</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td>Automatic glass pad machine Automization of extrusion press Heat</td>
<td>2 M €</td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td>Machining center Automization of billet</td>
<td>1 M €</td>
</tr>
</tbody>
</table>
PRODUCTS AVAILABLE

WHERE?

- Tail and fin attachment sections
- Landing gears and brakes
- Engines and engine pylons
- Leading edges and flap tracks
- Body and landing gear doors mechanism
- Seat tracks and floor stiffeners
TITANIUM : 6-4      Ø inter 650 mm
Machined ring : Titanium 6-4
As extruded aircraft seat rail: Titanium 6-4
Power rail and stator pack hanger for magnetic levitation train Transrapid

Special profiles for noise-reduced rail system („whisper rail“)

Special profiles for trolley-bus monorails

Special profiles for rail fastening, construction components for railroad track construction and rails of special dimensions
Special profiles for shipbuilding
Special profile in 2-column high-load hydraulic car lifts

Hinge profiles for car and truck doors

Special profiles for automotive axles and half shells

Special profiles for automotive cardan shafts

Special profiles for valve bodies for truck diesel engines
Special hollow profiles as blade holders in corn harvesters

Special profile for blade holders on corn pickers

Equipment-holding profiles for clamp rails in single-grain seeders
Finned, omega and double omega pipes for gas-tight membrane walls in boiler construction

Stator element in generators

Profiled furnace pipes for continuous reheating furnaces

Special „T“ profiles from heat resistant steel for walking beam furnaces
THANK YOU