Focus on the Outokumpu S.p.A. Service Centre
Our addresses

Outokumpu S.p.A.

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OUTOKUMPU S.P.A. Registered address: Via Agnello, 8 - 20121 Milano
VAT N. 00718730153
Materials & Quality
Quality level is the key point for all subsequent operations. Our plants, technologically advanced, enable us to be considered as a trustful partner in terms of quality. The materials are produced in conformity with the appropriate standards respecting the regulation related to the specific final use.

A wide range of stainless steels
Intended for general use or in specific fields such as the chemical or petrochemical industry, food-processing, pulp&paper, structural, thermal or mechanical applications, ship-building, furniture and household appliances. We can provide the appropriate range of steels for all ordinary market request, and special grades for any particular demand.

Why the Outokumpu S.p.A. Service Centre?

Complete engineering and plant design solutions
We can arrange solutions to cover the whole range of products needed by customers. In fact, they can refer to a single source supplier for flat, long, tubular and plasma cutting products avoiding to use several different suppliers. In this way we will optimize time research, time response and transport costs in order to economize all purchase phases.

Fast delivery times
Reliable partner carriers reinforce our reputation as stable and trustful supplier.
Flat products: technical specifications of machines and systems

2000 mm HR / CR coil-levelling machine
It is one of the most powerful coil leveller and cut-to-length line used in service centers. It allows to obtain a range of extra long sheets with very good flatness tolerances, even on the thickest material.

<table>
<thead>
<tr>
<th>Weight of coil</th>
<th>30000 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>700 to 2050 mm</td>
</tr>
<tr>
<td>Length of sheets</td>
<td>1500 to 13000 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>HR 3 to 14 mm CR 4 to 8 mm</td>
</tr>
</tbody>
</table>

2000 mm CR coil-levelling machine
The machine is equipped with two levellers facilities and a double stacker performed with a vacuum-operated system which, avoiding mechanical contacts with the material, ensures a good quality surface.

<table>
<thead>
<tr>
<th>Weight of coil</th>
<th>30000 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>900 to 2050 mm</td>
</tr>
<tr>
<td>Length of sheets</td>
<td>600 to 8000 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.5 to 3.0 mm</td>
</tr>
</tbody>
</table>

1500 mm CR coil-levelling and blanking line
Advanced technology cut-to-length line for narrow strips cut-to-size. The machine is equipped with two levellers facilities and a double stacker performed with a vacuum system which, avoiding mechanical contacts with the material, ensures a good quality surface.

<table>
<thead>
<tr>
<th>Weight of coil</th>
<th>30000 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>200 to 350 mm</td>
</tr>
<tr>
<td></td>
<td>350 to 1550 mm</td>
</tr>
<tr>
<td>Length of sheets</td>
<td>350 to 3000 mm</td>
</tr>
<tr>
<td></td>
<td>350 to 6000 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.4 to 3.0 mm</td>
</tr>
</tbody>
</table>
1500 mm CR coil slitter
This longitudinal slitting line enables to obtain narrow coils with tight tolerances.

<table>
<thead>
<tr>
<th>Weight of coil</th>
<th>Width of coil (ingoing)</th>
<th>Outside dia. of coil</th>
<th>Inside dia. of coil (outgoing)</th>
<th>Thicknesses</th>
<th>Min. width obtainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>30000 kg</td>
<td>from 100 to 1540 mm</td>
<td>2000 mm</td>
<td>500 mm</td>
<td>from 0.4 to 1.5 mm</td>
<td>20 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>from 2 to 3 mm</td>
<td>25 mm</td>
</tr>
</tbody>
</table>

1000mm HR/CR coil slitter
This is a dedicated machine for processing HR coils with thicknesses of up to 6 mm. Longitudinal slitting line used to process coil with thicknesses up to 6 mm.

<table>
<thead>
<tr>
<th>Weight of coil</th>
<th>Width of coil (ingoing)</th>
<th>Outside dia. of coil</th>
<th>Inside dia. of coil (outgoing)</th>
<th>Thicknesses</th>
<th>Min. width obtainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>20000 kg</td>
<td>from 150 to 1040 mm</td>
<td>2000 mm</td>
<td>500 mm</td>
<td>from 0.5 to 1.5 mm</td>
<td>12 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>from &gt;1.5 to 3.0 mm</td>
<td>25 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>from &gt;3.0 to 6.0 mm</td>
<td>30 mm</td>
</tr>
</tbody>
</table>

Narrow coils automatic strapping lines
The line is used to pack coils coming from the longitudinal cutting lines: Slitter 1000 and Slitter 1500.

<table>
<thead>
<tr>
<th>Weight of crate</th>
<th>Width of coil (ingoing)</th>
<th>Outside dia. of coil</th>
<th>Inside dia. of coil</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000 kg</td>
<td>from 20 to 400 mm</td>
<td>from 700 to 1850 mm</td>
<td>500 mm</td>
</tr>
</tbody>
</table>
Flat products: technical specifications of machines and systems

Polishing line for 2000 mm HR / CR sheets
This world class four cabins line works with grinding belts that guarantee a constituent roughness all over the sheet surface, on both sides. Sheets can be also protected with plastic film (in accordance with market standards).

<table>
<thead>
<tr>
<th>Width of sheets</th>
<th>Length of sheets</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>800 to 2000 mm</td>
<td>2000 to 12000 mm</td>
<td>3 to 14 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or thicker on sheets made from flat blooms</td>
</tr>
</tbody>
</table>

Polishing line for 1600 mm CR sheets
This machine is very recently made and is equipped with state-of-the-art technical arrangements. It works with three polishing/cabins. Sheets can be also protected with plastic film (in accordance with market standards).

<table>
<thead>
<tr>
<th>Width of sheets</th>
<th>Length of sheets</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>700 to 1600 mm</td>
<td>900 to 6000 mm</td>
<td>0.6 to 4 mm</td>
</tr>
</tbody>
</table>
Coil to coil polishing lines H 2000 mm

Our service center is fitted with two polishing lines coil to coil, equipped with three polishing cabins, technologically advanced, enabling a high performing production capability, which guarantees the most accurate quality requirements.

Our continuous research and innovation process, has lead us - in relationship with our partners and suppliers - to develop a wide range of surface finishes so to satisfy the most demanding customers.

In addition to the standard dry finishes (from grain 80, up to grain 400), Duplo finishing and Taylor made finishes, we have developed a scotch brite finishing carried out with special cork belts, representing nowadays the highest standard on the market both in terms of quality and production results.

<table>
<thead>
<tr>
<th>Weight of coil</th>
<th>Inside diameter (outgoing)</th>
<th>Width of Coils for polishing</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>30000 kg</td>
<td>500 and 600 mm</td>
<td>600 ÷ 900 mm</td>
<td>≥ 0.8 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 900 ÷ 2000 mm</td>
<td>0.5 ÷ 3 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>900 ÷ 2000 mm</td>
<td>0.5 ÷ 3 mm</td>
</tr>
</tbody>
</table>
# Cutting systems

## Plasma cutting

Submerged cutting ensures less tapering of the cutting edge, a reduction of the heat affected zone and a better working environment, with no fumes, noise or dispersion of UV light.

<table>
<thead>
<tr>
<th>1 submerged-cutting system (maximum Quarto Plate length in entrance: 15000 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 cutting tables, 3200x7500 mm</td>
</tr>
<tr>
<td>Maximum thickness: 60 mm</td>
</tr>
</tbody>
</table>

## Band-sawing machines

High-precision mechanical cutting with 90° angles

<table>
<thead>
<tr>
<th>2 band-sawing machines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length: 6250 mm</td>
</tr>
<tr>
<td>Width: 2000 mm</td>
</tr>
<tr>
<td>Thickness: 300 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 submerged-cutting system (maximum Quarto Plate length in entrance: 15000 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 cutting tables, 3200x7500 mm</td>
</tr>
<tr>
<td>Maximum thickness: 40 mm (submerged cut)</td>
</tr>
<tr>
<td>Maximum thickness: 120 mm (dry cut)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 band-sawing machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width: 520 mm</td>
</tr>
<tr>
<td>Thickness: 520 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 band-sawing machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length: 420 mm</td>
</tr>
<tr>
<td>Thickness: 520 mm</td>
</tr>
</tbody>
</table>
### Range of qualities and thicknesses available for cutting

<table>
<thead>
<tr>
<th>Standard grades</th>
<th>OUTOKUMPU Designation</th>
<th>Thicknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 1.4301/4307 - 304/L</td>
<td>CORE 304/L - 4301/4307</td>
<td>3 - 100 mm</td>
</tr>
<tr>
<td>EN 1.4307 - 304L Prodec</td>
<td>PRODEC 304L/4307</td>
<td>15 - 50 mm</td>
</tr>
<tr>
<td>EN 1.4401/4404 - 316/L</td>
<td>SUPRA 316/L - 4401/4404</td>
<td>3 - 100 mm</td>
</tr>
<tr>
<td>EN 1.4404 - 316L Prodec</td>
<td>PRODEC 316L/4404</td>
<td>15 - 80 mm</td>
</tr>
<tr>
<td>EN 1.4541 - 321</td>
<td>CORE 321/4541</td>
<td>3 - 60 mm</td>
</tr>
<tr>
<td>EN 1.4571 - 316Ti</td>
<td>FORTA 316Ti/4571</td>
<td>3 - 50 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duplex grades</th>
<th>OUTOKUMPU Designation</th>
<th>Thicknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 1.4162 - LDX 2101®</td>
<td>FORTA LDX 2101</td>
<td>3 - 40 mm</td>
</tr>
<tr>
<td>EN 1.4362 - 2304</td>
<td>FORTA DX 2304</td>
<td>3 - 40 mm</td>
</tr>
<tr>
<td>EN 1.4662 - LDX 2404</td>
<td>FORTA LDX 2404</td>
<td>3 - 40 mm</td>
</tr>
<tr>
<td>EN 1.4462 - 2205</td>
<td>FORTA DX 2205</td>
<td>3 - 100 mm</td>
</tr>
<tr>
<td>EN 1.4410 - 2507</td>
<td>FORTA SDX 2507</td>
<td>3 - 50 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special grades</th>
<th>OUTOKUMPU Designation</th>
<th>Thicknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 1.4539 - 904L</td>
<td>ULTRA 904L</td>
<td>3 - 50 mm</td>
</tr>
<tr>
<td>EN 1.4547 - 254 SMO ®</td>
<td>ULTRA 254 SMO</td>
<td>3 - 15 mm</td>
</tr>
<tr>
<td>EN 1.4529</td>
<td>ULTRA 6XN</td>
<td>20 - 50 mm</td>
</tr>
<tr>
<td>EN 1.4835 - 253 MA ®</td>
<td>THERMA 253 MA</td>
<td>3 - 40 mm</td>
</tr>
</tbody>
</table>
Outokumpu's additional services

- Certificates
- Testing (DNV - BUREAU VERITAS - LLOYD’S REGISTER - RINA)
- Chemical testing
- Norsok M-650
- Mechanical specifications
- Dimensional checks
- PMI (Positive Material Identification)
- Non-destructive testing (penetrant – X-ray and US inspection)
- Corrosion testing
- Test certificates
- Cutting to size
- Polishing
- Markings
- Packaging to specifications

Chemical composition of the main stainless steels Outokumpu

<table>
<thead>
<tr>
<th>International designation</th>
<th>OUTOKUMPU designation</th>
<th>Typical chemical composition, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN</td>
<td>ASTM/UNS</td>
<td>C</td>
</tr>
<tr>
<td>Ferritic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4512</td>
<td>409</td>
<td>MODA</td>
</tr>
<tr>
<td>1.4016</td>
<td>430</td>
<td>MODA</td>
</tr>
<tr>
<td>1.4509</td>
<td>S43932/40</td>
<td>CORE</td>
</tr>
<tr>
<td>1.4521</td>
<td>444</td>
<td>SUPRA</td>
</tr>
<tr>
<td>1.4162</td>
<td>S32101</td>
<td>FORTA</td>
</tr>
<tr>
<td>1.4362</td>
<td>S32304</td>
<td>FORTA</td>
</tr>
<tr>
<td>1.4462</td>
<td>S32205</td>
<td>FORTA</td>
</tr>
<tr>
<td>1.4410</td>
<td>S32750</td>
<td>FORTA</td>
</tr>
<tr>
<td>1.4662</td>
<td>S82441</td>
<td>FORTA</td>
</tr>
<tr>
<td>Duplex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4301</td>
<td>304</td>
<td>CORE</td>
</tr>
<tr>
<td>1.4307</td>
<td>304L</td>
<td>CORE</td>
</tr>
<tr>
<td>1.4541</td>
<td>321</td>
<td>CORE</td>
</tr>
<tr>
<td>1.4401</td>
<td>316</td>
<td>SUPRA</td>
</tr>
<tr>
<td>1.4404</td>
<td>316L</td>
<td>SUPRA</td>
</tr>
<tr>
<td>1.4571</td>
<td>316Ti</td>
<td>SUPRA</td>
</tr>
<tr>
<td>Austenitic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4539</td>
<td>904L</td>
<td>ULTRA</td>
</tr>
<tr>
<td>1.4529</td>
<td>N08926</td>
<td>ULTRA</td>
</tr>
<tr>
<td>1.4547</td>
<td>S31254</td>
<td>ULTRA</td>
</tr>
<tr>
<td>1.4833</td>
<td>309S</td>
<td>THERMA</td>
</tr>
<tr>
<td>1.4835</td>
<td>S30815</td>
<td>THERMA</td>
</tr>
<tr>
<td>1.4845</td>
<td>310S</td>
<td>THERMA</td>
</tr>
</tbody>
</table>
Quality
Our Quality Management System is certified according to ISO 9001 Standard.

Safety
Our Safety Management System is certified according to BS OHSAS 18001 Standard.

Environment
Our Environment Management System is certified according to ISO 14001 Standard.

Standards for flat products
EN 10088
EN 10028
ASTM/ASME A/SA 240 - 480
PED 2014/68/UE
Disclaimer
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Outokumpu is a global leader in the field of stainless steel. Our goal is to be the undisputed number one in stainless steel, basing our success on operational excellence. Customers in a wide range of industries use our stainless steel and our services world-wide. Thanks to the fact that stainless steel can be completely recycled and requires no maintenance, and that it is a very tough and durable material, it is one of the keystones to a sustainable future.

What makes Outokumpu special is its total attention to customers – along the whole way, from R&D right through to delivery. You have the idea, we offer the best stainless steel in the world, the technical know-how and support. We put your ideas into practice.