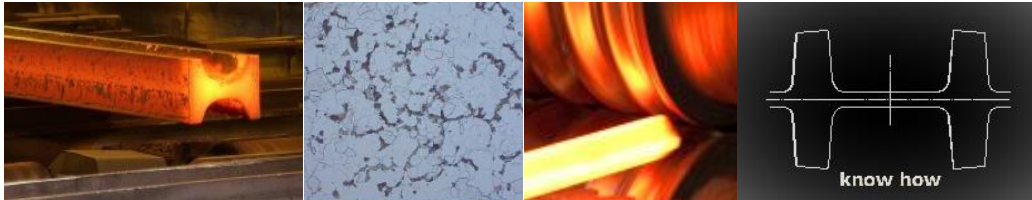


## Training Course – HOT ROLLING of Long Products

Two Working Days 14<sup>th</sup> and 15<sup>th</sup> March 2017, in Madrid (Spain)



“Practical knowledge to use in your company”

### Course Schedule

#### Day 14<sup>th</sup> March 2017:

**10:00 – 11:00 - General Iron & Steel sector overview**

- Productions, Capacities, Prices and trends.

**11:00 – 12:00 - Metallurgical overview of the hot steel rolling process**

- Steel structure and transformations
- Metallurgical temperatures and the rolling mill
- Grain structure and distribution

**12:00 – 12:30 – Coffee Break** (at the venue, included in price)

**12:30 – 14:00 - Metallurgical overview of the hot steel rolling process (cont)**

- Chemical composition and alloying elements
- Metallurgical Strategies and chemical composition
- Steel composition and final steel quality

**14:00 – 15:00 – Lunch** (at the venue, included in price)

**15:00 – 17:00 - Metallurgical overview of the hot steel rolling process (cont)**

- Thermomechanical treatments
- Metallurgical prediction

**17:10 – 19:30 - Roll Pass Design**

- Constant volume and material flow
- Pass filling and not filling
- Rolling conditions

**Day 15<sup>th</sup> March 2017:**

**9:00 – 11:00 – Roll Pass Design (cont)**

- Types of rolls
- Plastic yield stress and influencing factors
- Temperature, profiles and round
- Roll groove dimensions

**11:00 – 11:30 – Coffee Break** (at the venue, included in price)

**11:30 – 14:00 – Roll Pass Design (cont)**

- Force, Moment, Power & Motors
- Roll Pass design for Profiles
- Roll Pass design for angle
- Roll Pass design for rounds
- Initial sections

**13:30 – 14:30 – Lunch** (at the venue, included in price)

**14:30 – 15:30 – Roll Pass Design (cont)**

- Rolling defects

**15:30 – 16:30 – Rolling mill productivity and efficiency**

- Reheating furnace, types and strategy
- Rolling mill production capacity
- Initial sections definition
- Layout influence in quality

**16:30 – 16:45 Descanso**

**16:45 – 18:45 – Rolling mill productivity and efficiency**

- Finishing mill
    - Cooling
    - Cutting
    - Straightening
    - Stacking & Labelling
  - Quality certification systems
- End of the venue and course, delivery of attendance certificates, and short comment of a possible further visit to a Rolling Mill for day 16<sup>th</sup>.

Postscript: Possible visit to a Rolling Mill on the 16<sup>th</sup> March 2017 is not yet confirmed and its cost is not included in course price, although will be a low price. Attendees interested in this visit may need to travel on the 15<sup>th</sup> evening or in the 16<sup>th</sup> early morning, and will be organized by ATEC+ID.

## Location and hotel

This training course will take place at the ‘Hotel Meliá Avenida de América’ (Melia Hotel, Avenida de América), quite near Madrid airport. To register for the course, please fill the ‘Registration form’ and send it to [info@atecid.com](mailto:info@atecid.com), so we can book your seat as soon as possible.

For room reservations at this hotel you can contact Cristina Lozano, hotel responsible at [cristina.lozano@hotelavenidaamerica.com](mailto:cristina.lozano@hotelavenidaamerica.com), do not forget our reference code: **697425 ATEC+ID**.

Venue/hotel address:

Hotel Meliá Avenida de América  
C/ Juan Ignacio Luca de Tena, 36  
28027 Madrid  
SPAIN

Link to hotel website: <http://bit.ly/2hPwYSq>

Link to google maps: <http://bit.ly/2hDLbn5>