

With 40 sales offices in 40 different countries around the world, Industeel stands as one of the foremost international steel makers, with an unmatched capacity of support everywhere.



Industeel



Tailor-made  
Formed Pieces

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transforming  
tomorrow

All information in this brochure is for the purpose of information only.  
Industeel reserves the right to change its product range at any time without prior notice.

# Your needs. Our drive

## Industeel heavy forming division

Industeel heavy forming division located in Saint Chamond (France) is made up of a team of 40 experienced Engineers and Technicians whose objective is to produce and deliver pieces that fully meet your needs.

Key parameters for manufacturing of parts (design code, dimensions and material specification) are usually provided with the support of our metallurgists and R & D centre.

We can also support you in design optimization and the clarification of material specification with the support of our metallurgists and R & D centre.

For several years St Chamond heavy forming division has produced tailor-made and complex shapes with the most severe material specifications for oil & gas offshore equipment, defense applications, nuclear industry, refining and petrochemicals.



Heating before hot forming ^



Hot forming operation ^



Quality heat treatment on hemispherical 2 piece heads ^



Calibration ^

# Production tools for every shape

## A unique set of equipment to meet your needs

Tailor-made pieces require reliable and efficient production tools. St Chamond forming division has a unique set of equipment able to meet your needs:

2 forming presses (1200 tonnes and 12 000 tonnes) that can process any kind of steel (carbon, low alloy or stainless steel)

Quality heat treatment furnaces carefully controlled to carry out a variety of heat treatment (annealing solution, tempering, stress relieving...) under optimal conditions

A 5 m deep water quenching bath with a stirring system and water temperature control to ensure homogeneity of properties of heavy wall thickness pieces

Processing and control equipment (machining, shot blasting, flame cutting, NDE) that guarantee parts that are delivered fully meeting client expectations



12 000 tonnes forming press ^



Quenching of formed head ^



Oxycutting crane ^

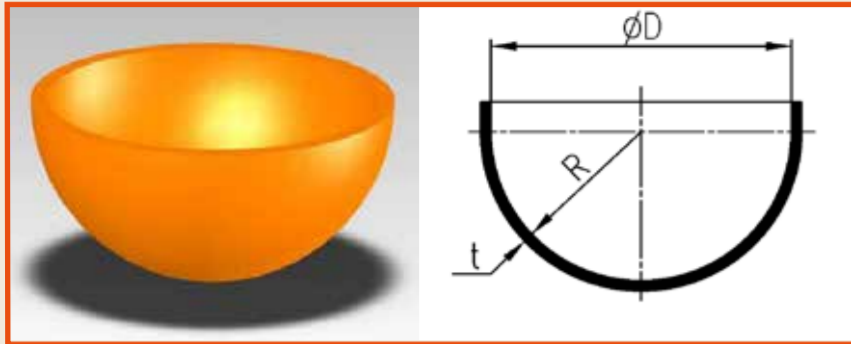
Since health & safety and quality are non-negotiable requirements for industries we serve, our entire production workflow has been approved by the most demanding internal and third-party control systems, including world's leading design and certification bodies (ASME, ISO 9001, ISO 140001, TUV).

We are also compliant with demanding design codes for equipment dedicated to nuclear power market (RCCM, ASME III).


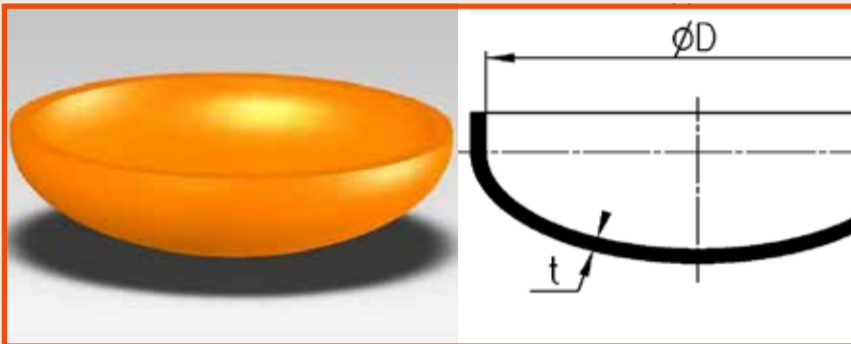


All our certificates are available on our website : <https://industeel.arcelormittal.com/services-support/documentstools>


**Single-piece heads (hemispherical, elliptical)**



**Hemispherical (1/1)**  
 ØD : 1000 - 3500 mm  
 Thickness (t) : 50 - 250 mm

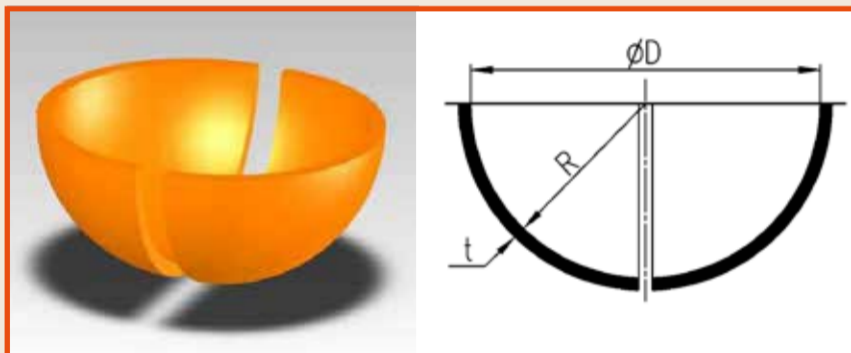



**Elliptical (1/1)**  
 ØD : 1000 - 3600 mm  
 Thickness (t) : 50 - 250 mm




**Multi-piece heads**

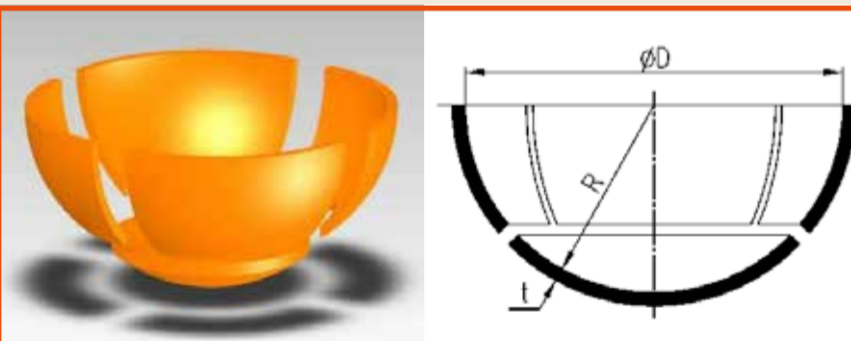
**Two-piece heads ("2/2") (hemispherical)**



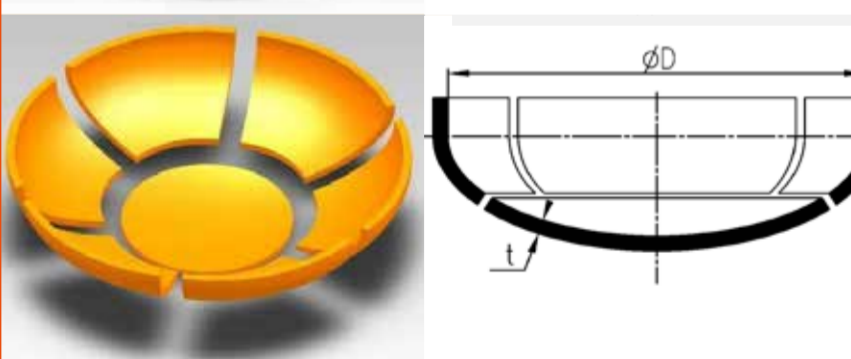
**Hemispherical (2/2)**  
 ØD : 3500 - 6500 mm  
 Thickness (t) : 50 - 250 mm



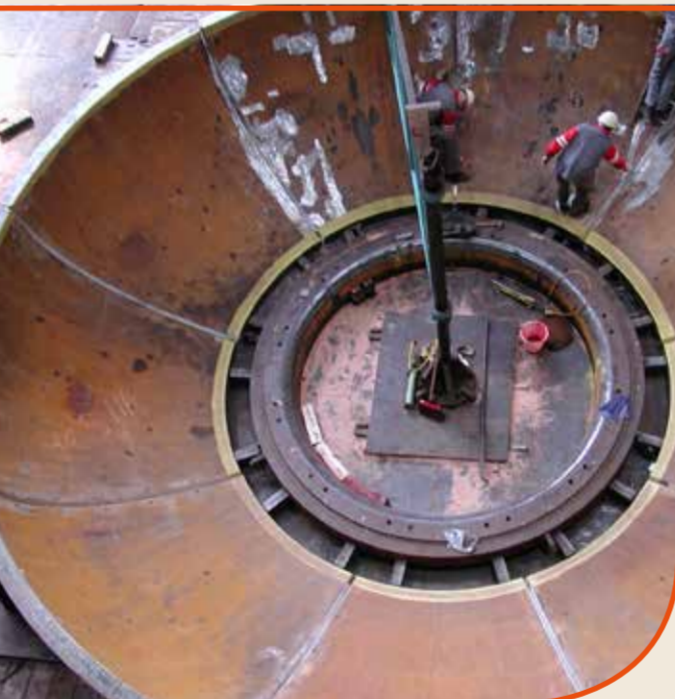
**Crown and petals (hemispherical, elliptical)**



**Hemispherical**  
 ØD : 6501 - 10000 mm  
 Thickness (t) : 50 - 250 mm



**Elliptical**  
 ØD : 3600 - 10000 mm  
 Thickness (t) : 100 - 250 mm




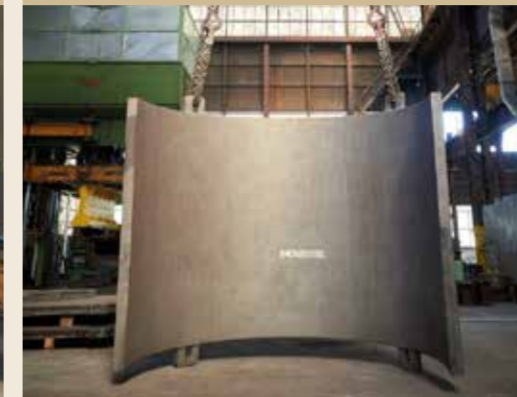



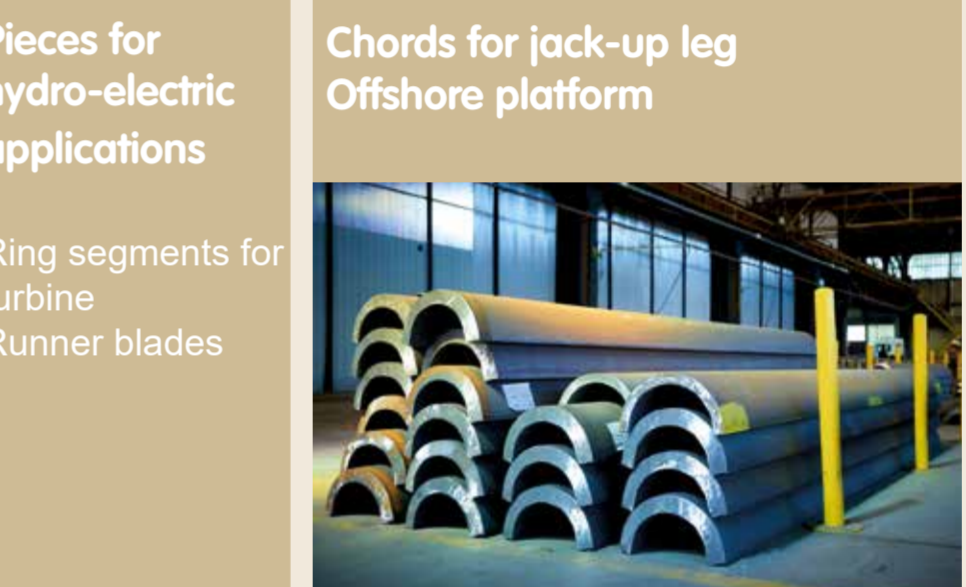

Dimensional limits are provided for information. A tailor-made study of your request will be carried out by our design office.

**Manufacturing route sequences**



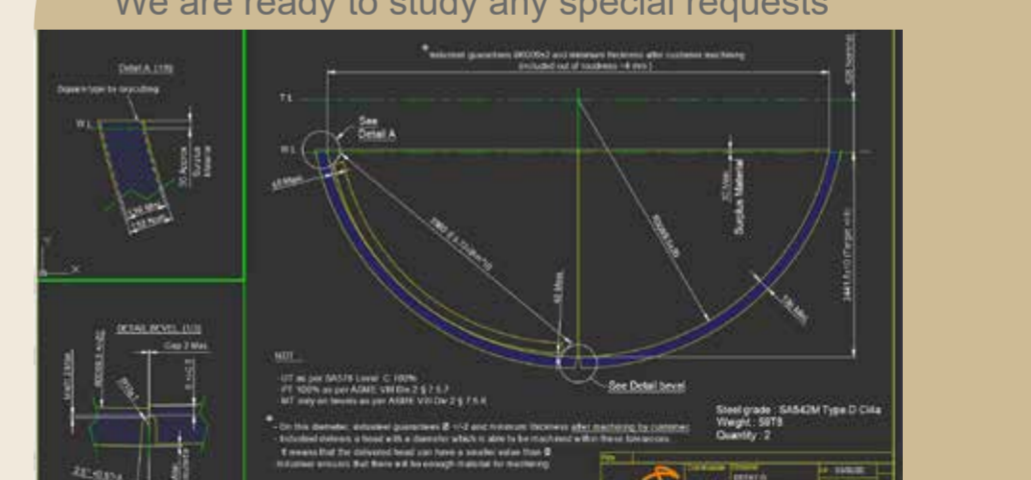

1. Removal of the plate from the furnace
2. Hot forming (initial steps)
3. Hot forming (final steps)
4. Quality heat treatment (Normalising, Water quenching, Tempering)
5. Computer-assisted sizing and dimensional check
6. Finishing & inspection

**Other tailor-made products**

<p><b>Cones</b></p> 	<p><b>Half shells</b></p> <p>ØD : 1000 - 7500 mm              Thickness (t) : 50 - 350 mm</p> 	<p><b>Connection pieces for submarine</b></p> 	<p><b>Single or multi pieces for tubesheets for refining and petrochemical applications</b></p> 
<p><b>Pieces for hydro-electric applications</b></p> <p>Ring segments for turbine              Runner blades</p> 	<p><b>Chords for jack-up leg Offshore platform</b></p> 	<p><b>Special protection steel components for armored vehicles</b></p> 	

**Additional tolling services : Our facilities and expertise to support your needs**

On request you can also entrust us special forming operations, heat treatment or surface treatment on products supplied by you

<p><b>Engineering &amp; Design</b></p> <p>We are ready to study any special requests</p> 	<p><b>Quality Heat treatment</b></p> <p>3 bogie hearth furnaces              14.3 x 4.25 x 2.00 m              13.0 x 2.00 x 1.15 m              11.0 x 4.90 x 3.30 m</p> <p>1 mobile roof furnace              15.5 x 6.50 x 5.30 m</p> 
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<p><b>High precision levelling &amp; forming</b></p> <p>2 forming presses 1200 tonnes and 12000 tonnes</p> 	<p><b>Processing</b></p> <p>Rotative flame cutting              Non-destructive testing              Shotblasting              Chamfering              Machining</p> 
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