

**SPECIFICATIONS AND NOMENCLATURE OF CAST IRON PARTS - MECHANICAL**

**CHARACTERISTICS**

This document has been put together to clarify the methods that should be used to obtain samples of material (commonly known as specimens), representing the cast parts' mechanical and metallographic characteristics, whether Grey or Spheroidal casting.

The material's mechanical characteristics can be assessed in machined specimens made from:

- Independent samples
- Samples attached to the part
- Samples included in the part and/or
- Samples cut from the part.

Due to the size and type of the parts cast at Fumbarri, whenever a material's mechanical characteristics are going to be assessed, we recommend you use the samples included in the part, as they are the ones that best represent the parts' characteristics.

There are currently two standards that set the methodology for defining samples, and these standards are as follows: UNE-EN 1561:2012 "Founding. Grey Cast-irons" and UNE-EN 1563:2019 "Founding. Spheroidal Graphite Cast-irons".

| MATERIAL                | Minimum Tensile Strength<br>N/mm <sup>2</sup> RM |        |     | HB<br>Hardness | Conventional yield strength<br>N/mm <sup>2</sup> R <sub>P0,2</sub> |        |     | Lengthening % |        |    | STRUCTURE  |
|-------------------------|--|--------|-----|----------------|--|--------|-----|---------------|--------|----|------------|
|                         | THICKNESS  | SAMPLE |     |                | THICKNESS  | SAMPLE |     | THICKNESS     | SAMPLE |    |            |
|                         |  | <30    | C   |                |  | D      | <30 |               | C      | D  |            |
| EN-GJL-250              | 250 A 300  |        |     | 180 - 220      |  |        |     |               |        |    | PEARLITE   |
| EN-GJL-300              | 300 A 400  |        |     | 190 - 230      |  |        |     |               |        |    | PEARLITE   |
| EN-GJS-400-15           | 400  | 390    | 370 | 140 - 190      | 250  | 250    | 240 | 15            | 14     | 11 | FERRITE    |
| EN-GJS-500-7            | 500  | 450    | 420 | 170 - 230      | 320  | 300    | 290 | 7             | 7      | 5  | 50% P 50%F |
| EN-GJS-600-3            | 600  | 600    | 550 | 220 - 270      | 370  | 360    | 340 | 3             | 2      | 1  | 20% F 80%P |
| EN-GJS-700-2            | 700  | 700    | 660 | 230 - 270      | 420  | 400    | 380 | 2             | 2      | 1  | PEARLITE   |
| EN-GJS-700-2L<br>GGG70L | 700  | 700    | 660 | 235 - 280      | 420  | 400    | 380 | 2             | 2      | 1  | PEARLITE   |