



Technical clauses for the acquisition of a Carbon monoxide attack refractories furnace.

Gijón, May 5, 2020

TECHNICAL CLAUSES

Minimum mandatory technical characteristics and description for the acquisition of the equipment to be supplied:

1. Refractory CO Furnace for testing refractory materials according to ISO 12676:2000 "Refractory products: determination resistance to carbon monoxide (EN-ISO 12676:2004)".
2. Allow treating 8 refractory pieces, of dimensions 76 ± 2 mm diameter and 76 mm minimum height, under:
 - a. pure CO at 500°C,
 - b. pure H₂ up to 900°C, or
 - c. mixes of both gases (generally CO and 10% H₂).
3. A maximum weight charge of 20 kg.
4. Conform to the following standards: EN 60204-1, EN 746.1, EN 60519-1, EN 60519-2, EN 61000-6.2, EN61000-6-4 and Directive RoHS 2011/65/EU.
5. Count with of a CO analyzer.
6. Be governed by an electronic system (PLC) able to be pre-programmed and an acquisition data system and corresponding data analysis software.
7. Count with a security system capable of ensuring unattended operation and in the case of failure be purged the furnace chamber with inert gas and emit the corresponding alarms (even by SMS).
8. Count with a redundant protection system ensuring SIL 2 requisites.
9. A minimum operational guarantee after first operational trials of 12 months is requested.