

SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING

F27 FURNACES; KILNS; OVENS; RETORTS

F27D DETAILS OR ACCESSORIES OF FURNACES, KILNS, OVENS, OR RETORTS, IN SO FAR AS THEY ARE OF KINDS OCCURRING IN MORE THAN ONE KIND OF FURNACE (combustion apparatus F23; electric heating H05B)

Note(s)

Attention is drawn to the references and Notes following the title of class F27 and Note(3) of section H.

Subclass index

CONSTRUCTIONAL FEATURES.....	1/00
HANDLING AND SUPPORTING CHARGE.....	3/00, 5/00, 15/00
PREHEATING CHARGE; COOLING; USING WASTE HEAT OR GASES.....	13/00, 9/00, 15/02, 17/00
ARRANGEMENTS OF ELECTRIC HEATING ELEMENTS.....	11/00
ARRANGEMENTS OF CONTROL AND SAFETY DEVICES.....	19/00, 21/00
OTHER FEATURES; OTHER DETAILS.....	7/00, 25/00, 27/00, 99/00

1/00 Casings; Linings; Walls; Roofs (refractory materials C04B; firebridges for combustion chambers F23M 3/00)	7/00 Forming, maintaining, or circulating atmospheres in heating chambers
1/02 • Crowns; Roofs	7/02 • Supplying steam, vapour, gases, or liquids
1/04 • characterised by the form of the bricks or blocks used	7/04 • Circulating atmospheres by mechanical means
1/06 • • Composite bricks or blocks	7/06 • Forming or maintaining special atmospheres or vacuum within heating chambers (F27D 7/02 takes precedence)
1/08 • • • Bricks or blocks with internal reinforcement or metal backing	
1/10 • Monolithic linings; Supports therefor	9/00 Cooling of furnaces or of charges therein (F27D 1/00, F27D 3/00 take precedence)
1/12 • incorporating cooling arrangements (constructions of tube assemblies in general F28)	
1/14 • Supports for linings (F27D 1/10 takes precedence)	11/00 Arrangement of elements for electric heating in or on furnaces (electric heating <i>per se</i> H05B)
1/16 • Making or repairing linings	11/02 • Ohmic resistance heating
1/18 • Door frames; Doors, lids, removable covers	11/04 • • with direct passage of current through the material being heated
3/00 Charging; Discharging; Manipulation of charge (conveying systems characterised by their application for specified purposes not otherwise provided for B65G 49/00; moving charge through a furnace F27B 9/14)	11/06 • Induction heating, i.e. in which the material being heated, or its container or elements embodied therein, form the secondary of a transformer
3/02 • Skids or tracks for heavy objects	11/08 • Heating by electric discharge, e.g. arc discharge
3/04 • Ram or pusher apparatus	11/10 • • Disposition of electrodes (automatic control of temperature G05D 23/00; electric discharge apparatus H01T; arrangements for feeding or guiding electrodes H05B 7/10; automatic control of power by positioning of electrodes H05B 7/144) [3]
3/06 • Charging or discharging machines on travelling carriages	11/12 • with electromagnetic fields acting directly on the material being heated
3/08 • Screw feeders; Screw dischargers	
3/10 • Charging directly from hoppers or shoots	13/00 Apparatus for preheating charges; Arrangements for preheating charges
3/12 • Travelling or movable supports or containers for the charge	
3/14 • Charging or discharging liquid or molten material	15/00 Handling or treating discharged material; Supports or receiving chambers therefor
3/15 • Tapping equipment; Equipment for removing slag	15/02 • Cooling
3/16 • Introducing a fluid jet or current into the charge (F27D 3/18 takes precedence) [3]	
3/18 • Charging particulate material using a fluid carrier [3]	
5/00 Supports, screens, or the like for the charge within the furnace (travelling or movable supports F27D 3/12)	

F27D

- 17/00 **Arrangement for using waste heat** (heat-exchangers per se F28); **Arrangement for using, or disposing of, waste gases** (removing fumes in general B08B 15/00)
- 19/00 **Arrangement of controlling devices**
- 21/00 **Arrangement of monitoring devices; Arrangements of safety devices**
- 21/02
 - Observation or illuminating devices
- 21/04
 - Arrangements of indicators or alarms
- 25/00 **Devices for removing incrustations [2010.01]**
- 27/00 **Stirring devices for molten material** (F27D 3/14 takes precedence) [2010.01]
- 99/00 **Subject matter not provided for in other groups of this subclass [2010.01]**