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) **[1, 2006.01]**

1/02 • Crowns; Roofs **[1, 2006.01]**

1/04 • characterised by the form of the bricks or blocks used **[1, 2006.01]**

1/06 • • Composite bricks or blocks **[1, 2006.01]**

1/08 • • • Bricks or blocks with internal reinforcement or metal backing **[1, 2006.01]**

1/10 • Monolithic linings; Supports therefor **[1, 2006.01]**

1/12 • incorporating cooling arrangements (constructions of tube assemblies in general F28) **[1, 2006.01]**

1/14 • Supports for linings (F27D 1/10 takes precedence) **[1, 2006.01]**

1/16 • Making or repairing linings **[1, 2006.01]**

1/18 • Door frames; Doors, lids, removable covers **[1, 2006.01]**

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) **[1, 2006.01]**

3/02 • Skids or tracks for heavy objects **[1, 2006.01]**

3/04 • Ram or pusher apparatus **[1, 2006.01]**

3/06 • Charging or discharging machines on travelling carriages **[1, 2006.01]**

3/08 • Screw feeders; Screw dischargers **[1, 2006.01]**

3/10 • Charging directly from hoppers or shoots **[1, 2006.01]**

3/12 • Travelling or movable supports or containers for the charge **[1, 2006.01]**

3/14 • Charging or discharging liquid or molten material **[1, 2006.01]**

3/15 • Tapping equipment; Equipment for removing slag **[1, 2006.01]**

3/16 • Introducing a fluid jet or current into the charge (F27D 3/18 takes precedence) **[1, 3, 2006.01]**

3/18 • Charging particulate material using a fluid carrier **[3, 2006.01]**

5/00 **Supports, screens, or the like for the charge within the furnace** (travelling or movable supports F27D 3/12) **[1, 2006.01]**

7/00 **Forming, maintaining, or circulating atmospheres in heating chambers [1, 2006.01]**

7/02 • Supplying steam, vapour, gases, or liquids **[1, 2006.01]**

7/04 • Circulating atmospheres by mechanical means **[1, 2006.01]**

7/06 • Forming or maintaining special atmospheres or vacuum within heating chambers (F27D 7/02 takes precedence) **[1, 2006.01]**

9/00 **Cooling of furnaces or of charges therein** (F27D 1/00, F27D 3/00 take precedence) **[1, 2006.01]**

11/00 **Arrangement of elements for electric heating in or on furnaces** (electric heating per se H05B) **[1, 2006.01]**

11/02 • Ohmic resistance heating **[1, 2006.01]**

11/04 • • with direct passage of current through the material being heated **[1, 2006.01]**

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 **[1, 2006.01]**

11/08 • Heating by electric discharge, e.g. arc discharge **[1, 2006.01]**

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) **[1, 3, 2006.01]**

11/12 • with electromagnetic fields acting directly on the material being heated **[1, 2006.01]**

13/00 Apparatus for preheating charges; Arrangements for preheating charges [1, 2006.01]

15/00 Handling or treating discharged material; Supports or receiving chambers therefor [1, 2006.01]

15/02 • Cooling **[1, 2006.01]**

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) **[1, 2006.01]**

19/00 Arrangement of controlling devices [1, 2006.01]

21/00 Arrangement of monitoring devices; Arrangements of safety devices [1, 2006.01]

21/02 • Observation or illuminating devices **[1, 2006.01]**

21/04 • Arrangements of indicators or alarms **[1, 2006.01]**

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]