C10B DESTRUCTIVE DISTILLATION OF CARBONACEOUS MATERIALS FOR PRODUCTION OF GAS, COKE, TAR, OR SIMILAR MATERIALS (cracking oils C10G; underground gasification of minerals E21B 43/295) [5]

Subclass indexes

RETORTS; COKE OVENS

Retorts .......................................................... 1/00
Coke ovens..................................................... 3/00-15/00

Structural features of coke ovens

doors, closures; other features .......... 25/00; 27/00, 29/00
heating ....................................................... 17/00-23/00
charging devices................................. 13/00, 31/00-35/00

Heating of coke ovens

17/00 Preheating of coke ovens [1,2006.01]
19/00 Heating of coke ovens by electrical means [1,2006.01]
21/00 Heating of coke ovens with combustible gases [1,2006.01]
21/02 . with lean gas [1,2006.01]
21/04 . with rich gas [1,2006.01]
21/06 . in coke ovens suitable for the use of lean gas or rich gas [1,2006.01]
21/08 . by applying special heating gases [1,2006.01]
21/10 . Regulating or controlling the combustion [1,2006.01]
21/12 . Burners [1,2006.01]
21/14 . Devices for reversing the draught [1,2006.01]
21/16 . by controlling or varying the openings between the heating flues and the regenerator flues [1,2006.01]
21/18 . Recirculating the flue gases [1,2006.01]
21/20 . Methods of heating ovens of the chamber oven type [1,2006.01]
21/22 . by introducing the heating gas and air at various levels [1,2006.01]
21/24 . at the top and the bottom of the vertical heating flues [1,2006.01]
21/26 . by introducing the heating gas and air at the top of the vertical flues only [1,2006.01]
23/00 Other methods of heating coke ovens [1,2006.01]

25/00 Doors or closures for coke ovens [1,2006.01]
25/02 . Doors; Door frames [1,2006.01]
25/04 . for ovens with vertical chambers [1,2006.01]
25/06 . for ovens with horizontal chambers [1,2006.01]
25/08 . Closing or opening the doors [1,2006.01]
25/10 . for ovens with vertical chambers [1,2006.01]
25/12 . for ovens with horizontal chambers [1,2006.01]
25/14 . Devices for lifting doors [1,2006.01]
25/16 . Sealing; Means for sealing [1,2006.01]
25/18 . Cooling [1,2006.01]
25/20 . Lids or closures for charging holes [1,2006.01]
25/22 . for ovens with vertical chambers [1,2006.01]
25/24 . for ovens with horizontal chambers [1,2006.01]
Devices for charging or discharging coke ovens: Mechanical treatments of coal charges

31/00 Charging devices for coke ovens [1,2006.01]
31/02 . for charging vertically [1,2006.01]
31/04 . coke ovens with horizontal chambers [1,2006.01]
31/06 . for charging horizontally [1,2006.01]
31/08 . coke ovens with horizontal chambers [1,2006.01]
31/10 . . with one compact charge [1,2006.01]
31/12 . for liquid materials [1,2006.01]

33/00 Discharging devices for coke ovens; Coke guides [1,2006.01]
33/02 . Extracting coke with built-in devices, e.g. gears, screws [1,2006.01]
33/04 . Pulling-out devices [1,2006.01]
33/06 . . for horizontal chambers [1,2006.01]
33/08 . Pushers, e.g. rams [1,2006.01]
33/10 . . for horizontal chambers [1,2006.01]
33/12 . Discharge valves [1,2006.01]
33/14 . Coke guides [1,2006.01]

35/00 Combined charging and discharging devices for coke ovens [1,2006.01]

37/00 Mechanical treatments of coal charges in the oven [1,2006.01]
37/02 . Levelling charges, e.g. with bars [1,2006.01]
37/04 . Compressing charges (during coking C10B 47/12) [1,2006.01]
37/06 . Forming holes in charges [1,2006.01]

39/00 Cooling or quenching coke [1,2006.01]
39/02 . Dry cooling outside the oven [1,2006.01]
39/04 . Wet quenching [1,2006.01]
39/06 . . in the oven [1,2006.01]
39/08 . . Coke-quenching towers [1,2006.01]
39/10 . . combined with agitating means, e.g. rotating tables or drums [1,2006.01]
39/12 . . combined with conveying means [1,2006.01]
39/14 . Cars [1,2006.01]
39/16 . . combined with sorting [1,2006.01]
39/18 . Coke ramps [1,2006.01]

41/00 Safety devices, e.g. signalling or controlling devices for use in the discharge of coke [1,2006.01]
41/02 . for discharging coke [1,2006.01]
41/04 . . by electrical means [1,2006.01]
41/06 . . by pneumatic or hydraulic means [1,2006.01]
41/08 . . for the withdrawal of the distillation gases [1,2006.01]

43/00 Preventing or removing incrustations [1,2006.01]
43/02 . Removing incrustations [1,2006.01]
43/04 . . by mechanical means [1,2006.01]
43/06 . . . from conduits, valves or the like [1,2006.01]
43/08 . . . with liquids [1,2006.01]
43/10 . . . by burning out [1,2006.01]
43/12 . . . Burners [1,2006.01]
43/14 . Preventing incrustations [1,2006.01]

45/00 Other details [1,2006.01]
45/02 . Devices for producing compact unified coal charges outside the oven [1,2006.01]

Carbonising or coking processes

47/00 Destructive distillation of solid carbonaceous materials with indirect heating, e.g. by external combustion [1,2006.01]
47/02 . with stationary charge [1,2006.01]
47/04 . . in shaft furnaces [1,2006.01]
47/06 . . in retorts [1,2006.01]
47/08 . . . in beehive ovens [1,2006.01]
47/10 . . . in coke ovens of the chamber type [1,2006.01]
47/12 . . . in which the charge is subjected to mechanical pressure during coking [1,2006.01]
47/14 . . . with the aid of hot liquids, e.g. molten salts [1,2006.01]
47/16 . . . with indirect heating means both inside and outside the retorts [1,2006.01]
47/18 . . with moving charge [1,2006.01]
47/20 . . . according to the “moving bed” technique (C10B 47/26 takes precedence) [1,2006.01]
47/22 . . . in dispersed form (C10B 47/26 takes precedence) [1,2006.01]
47/24 . . . according to the “fluidised bed” technique [1,2006.01]
47/26 . . . with the aid of hot liquids, e.g. molten salts [1,2006.01]
47/28 . . Other processes [1,2006.01]
47/30 . . . in rotary ovens or retorts [1,2006.01]
47/32 . . . in ovens with mechanical conveying means [1,2006.01]
47/34 . . . with rotary scraping devices [1,2006.01]
47/36 . . . . . . in multi-stage ovens [1,2006.01]
47/38 . . . . . . with shaking or vibrating devices [1,2006.01]
47/40 . . . . . . with endless conveying devices [1,2006.01]
47/42 . . . . . . with vertical direction [1,2006.01]
47/44 . . . . . . with conveyor-screws [1,2006.01]
47/46 . . . . . . with trucks, containers, or trays [1,2006.01]
47/48 . . . . . . with tilting or rocking means [1,2006.01]

49/00 Destructive distillation of solid carbonaceous materials by direct heating with heat-carrying agents including the partial combustion of the solid material to be treated [1,2006.01]
49/02 . . with hot gases or vapours, e.g. hot gases obtained by partial combustion of the charge [1,2006.01]
49/04 . . . while moving the solid material to be treated [1,2006.01]
49/06 . . . . according to the “moving bed” technique [1,2006.01]
49/08 . . . . in dispersed form [1,2006.01]
49/10 . . . . according to the “fluidised bed” technique [1,2006.01]
49/12 . . . . by mixing tangentially, e.g. in vortex chambers [1,2006.01]
with hot liquids, e.g. molten metals [1,2006.01]
with moving solid heat-carriers in divided form [1,2006.01]
according to the “moving bed” technique [1,2006.01]
in dispersed form [1,2006.01]
according to the “fluidised bed” technique [1,2006.01]

Destructive distillation of solid carbonaceous materials by combined direct and indirect heating [1,2006.01]
Destructive distillation, specially adapted for particular solid raw materials or solid raw materials in special form (wet carbonising of peat C10F) [1,2006.01]
of cellulose-containing material (production of pyrolygenic acid C10C 5/00) [1,2006.01]
of powdered coal [1,2006.01]
of oil shale or bituminous rocks [1,2006.01]
of synthetic polymeric materials, e.g. tyres (recovery or working-up of waste materials of organic macromolecular compounds or compositions based thereon by dry-heat treatment for obtaining partially depolymerised materials C08J 11/10; production of liquid hydrocarbon mixtures from rubber or rubber waste C10G 1/10) [2006.01]
in the form of briquettes, lumps or the like [1,2006.01]

Coking mineral oils, bitumen, tar or the like, or mixtures thereof, with solid carbonaceous materials
(cracking oils C10G) [1,2006.01]
with solid materials [1,2006.01]
with moving solid materials [1,2006.01]
according to the “moving bed” technique [1,2006.01]
in dispersed form [1,2006.01]
according to the “fluidised bed” technique [1,2006.01]

Other carbonising or coking processes; Features of destructive distillation processes in general [1,2006.01]
Multi-step carbonising or coking processes [1,2006.01]
using charges of special composition [1,2006.01]
containing additives [1,2006.01]
Non-mechanical pretreatment of the charge [1,2006.01]
Drying [1,2006.01]
Applying additives during coking [1,2006.01]
Features of low-temperature carbonising processes [1,2006.01]
Features of high-temperature carbonising processes [1,2006.01]
Modifying the properties of the distillation gases in the oven [1,2006.01]