B28C

PREPARING CLAY; PRODUCING MIXTURES CONTAINING CLAY OR CEMENTITIOUS MATERIAL, e.g. PLASTER (preparing material for foundry moulds B22C 5/00)

Relationships with other classification places

Classification of preparing clay; Producing mixtures containing clay or cementitious material is in this subclass.

Classification of cements; concrete and ceramics per se is classified under C04B. Mixing is classified under B01F.

References

Limiting references

This place does not cover:

<table>
<thead>
<tr>
<th>Description</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixers in general</td>
<td>B01F</td>
</tr>
<tr>
<td>Concrete paving mixers combined with distributing devices</td>
<td>E01C 19/00</td>
</tr>
<tr>
<td>Machines for preparing mixtures of road-metal with bitumen</td>
<td>E01C 19/10</td>
</tr>
</tbody>
</table>

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>includes plaster</td>
</tr>
<tr>
<td>Mixtures of cement with other substances</td>
<td>includes plaster</td>
</tr>
<tr>
<td>Clay</td>
<td>includes ceramic compositions</td>
</tr>
</tbody>
</table>
B28C 1/00

Apparatus or methods for obtaining or processing clay (filtration in general B01D; separation of solids from solids B03, B07; chemical part C04B; by mining or quarrying E21C 41/16, E21C 41/26, E21C 47/10)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Preparing or treating clay; kaolin       | C04B 33/04 |
| Treatment of clays                      | C09C 1/42  |

B28C 1/02

for producing or processing clay suspensions {, e.g. slip} (producing or processing suspensions in general B01)

Definition statement

This place covers:

Illustrative example of subject matter classified in B28C 1/02.
B28C 1/10
for processing clay-containing substances in non-fluid condition (clay slurries B28C 1/02) {; Plants}

Definition statement
This place covers:
Illustrative example of subject matter classified in B28C 1/10.

B28C 3/00
Apparatus or methods for mixing clay with other substances (producing clay suspensions B28C 1/02)

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Compositions of mortars, concrete or artificial stone containing unburned clay | C04B 28/001 |
B28C 5/00
Apparatus or methods for producing mixtures of cement with other substances, e.g. slurries, mortars, porous or fibrous compositions (controlling the mixing apparatus and supplying the ingredients B28C 7/00 {separating cement from waste concrete B03B 9/063})

Special rules of classification
Classification of apparatus or methods for producing mixtures is classified under this subclass.

without using driven mechanical means effecting the mixing is classified under B28C 5/02.
using driven mechanical means effecting the mixing is classified under B28C 5/08.
mixing in containers not actuated is classified under B28C 5/10.
mixing in containers to which motion is imparted is classified under B28C 5/18.
mixing on or by conveyors is classified under B28C 5/34.
mixing effected by the action of a fluid and by driven mechanical means is classified under B28C 5/38.
for preparing mixtures containing fibres is classified under B28C 5/40.
adapted for being mounted on vehicles and mixing during transport is classified under B28C 5/42.
super-or sub-atmospheric pressure during mixing is classified under B28C 5/46.
mixing effected by vibrations is classified under B28C 5/48.

B28C 5/02
without using driven mechanical means effecting the mixing (B28C 5/48 takes precedence)

Definition statement
This place covers:
Illustrative example of subject matter classified in B28C 5/02.
Synonyms and Keywords

In patent documents the following words "gunnite", "shotcrete" and "aircrete" are often used.

Definition statement

This place covers:

Illustrative example of subject matter classified in B28C 5/08.
B28C 5/10
Mixing in containers not actuated to effect the mixing

Definition statement
This place covers:
Illustrative example of subject matter classified in B28C 5/10.

Special rules of classification
Classification of mixing in containers not actuated to effect the mixing is classified in this subclass.
mixing with stirrers sweeping through the material is classified under B28C 5/12.
discontinuously operating mixing devices is classified under B28C 5/1223.
material flowing continuously through the mixing device is classified under B28C 5/1238.
the stirrers having a substantially horizontal axis is classified under B28C 5/14.
the stirrers having a substantially vertical axis is classified under B28C 5/16.

Mixing in containers not actuated to effect the mixing
B28C5/10

with stirrers sweeping through the material
B28C5/12

discontinuously operating mixing devices
B28C5/12C

material flowing continuously through the mixing device
B28C5/12F

the stirrers having a (substantially) horizontal axis
B28C5/14

the stirrers having a (substantially) vertical axis
B28C5/16

B28C 5/12

with stirrers sweeping through the materials {, e.g. with incorporated feeding or discharging means or with oscillating stirrers}

Definition statement

This place covers:

Illustrative example of subject matter classified in B28C 5/12.
References

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

<table>
<thead>
<tr>
<th>Vehicle with moving mixing tools in a stationary container for mixing during transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>B28C 5/4282</td>
</tr>
</tbody>
</table>
B28C 5/14

the stirrers having motion about a horizontal or substantially horizontal axis \{(with feeding or discharging means B28C 5/12)\}

Definition statement

*This place covers:*

Illustrative example of subject matter classified in B28C 5/14.

EP 1 023 978 A1

![Diagram](image-url)

*Fig. 2*
B28C 5/142
{the stirrer shaft carrying screw-blades}

Definition statement

This place covers:
Illustrative example of subject matter classified in B28C 5/142.
B28C 5/16
the stirrers having motion about a vertical or steeply inclined axis {(with feeding or discharging means B28C 5/12)}

Definition statement
This place covers:

B28C 5/18
Mixing in containers to which motion is imparted to effect the mixing

Definition statement
This place covers:
The motion which is imparted to the container to effect the mixing is non-rotational, e.g. rocking back and forth; axial reciprocating movement of the container.
References

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

| Apparatus specially adapted for being mounted on vehicles with provision for mixing during transport | B28C 5/42 |

Special rules of classification

Mixing in containers to which rotating motion is imparted are to be classified in the hierarchically lower subgroups of the B28C 5/18.

- Rotating about an inclined axis is classified under B28C 5/1806.
- Tilted-drum type mixers is classified under B28C 5/1825.
- Pulling the mixer over the ground or driven by the wheel of a vehicle is classified under B28C 5/1893.
- Rotating about a (substantially) horizontal axis classified is under B28C 5/20.
rotating about a (substantially) vertical axis is classified under B28C5/25.

Mixing in containers to which motion is imparted to effect the mixing

B28C5/18

rotating about an inclined axis
B28C5/18A

tilted-drum type mixers
B28C5/18B

pulling the mixer over the ground or driven by the wheel of a vehicle
B28C5/18C

rotating about a (substantially) horizontal axis
B28C5/20

rotating about a (substantially) vertical axis
B28C5/26

B28C 5/1806

{rotating about an inclined axis (about a steeply inclined axis B28C 5/26)}

Definition statement

This place covers:
Illustrative example of subject matter classified in B28C 5/1806.

B28C 5/1825

{Mixers of the tilted-drum type, e.g. mixers pivotable about an axis perpendicular to the axis of rotation for emptying}

Definition statement

This place covers:
Illustrative example of subject matter classified in B28C 5/1825.
**B28C 5/1843**

{having several drums}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in [B28C 5/1843](#).

---

**B28C 5/1893**

{the mixing drum being rotated by pulling it over the ground; the mixing drum or the stirrer being driven by movement of the wheel of a vehicle}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in [B28C 5/1893](#).
B28C 5/20

rotating about a horizontal or substantially horizontal axis during mixing, e.g. without independent stirrers

Definition statement

This place covers:

Illustrative example of subject matter classified in B28C 5/20.
B28C 5/26

rotating about a vertical or steeply inclined axis during the mixing, e.g. comprising a flat bottomplate rotating about a vertical axis, co-operating with blades or stirrers

Definition statement

This place covers:

Illustrative example of subject matter classified in B28C 5/26.
B28C 5/34
Mixing on or by conveyors {, e.g. by belts or chains provided with mixing elements}

Definition statement
This place covers:
Illustrative example of subject matter classified in B28C 5/34.

DE 477 968 C
**B28C 5/38**

Wherein the mixing is effected both by the action of a fluid and by directly-acting driven mechanical means, e.g. stirring means; Producing cellular concrete

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in B28C 5/38.

SU 1 691 110 A1

---

**B28C 5/40**

Mixing specially adapted for preparing mixtures containing fibres

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in B28C 5/40.
**B28C 5/42**

Apparatus specially adapted for being mounted on vehicles with provision for mixing during transport ({{B28C 5/1893 takes precedence; mounted on a wheelbarrow B28C 5/1215, B28C 5/1818, B28C 5/2018; } vehicle aspect B60P 3/16})

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in B28C 5/42.
B28C 5/4251
{telescopic or foldable chutes}

Definition statement

This place covers:
Illustrative example of subject matter classified in B28C 5/4251.

B28C 5/44
Apparatus specially adapted for drive by muscle power

Definition statement

This place covers:
Illustrative example of subject matter classified in B28C 5/44.
**B28C 5/46**

Arrangements for applying super- or sub-atmospheric pressure during mixing; Arrangements for cooling or heating during mixing[, e.g. by introducing vapour]

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B28C 5/46].
B28C 5/48
wherein the mixing is effected by vibrations (mixers with vibrating mechanisms in general B01F 11/00)

Definition statement
This place covers:
Illustrative example of subject matter classified in B28C 5/48.

B28C 7/0046
{Storage or weighing apparatus for supplying ingredients (B28C 7/04 takes precedence)}

Definition statement
This place covers:
Illustrative example of subject matter classified in B28C 7/0046.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Large containers | B65D 88/00 |

B28C 7/02

Controlling the operation of the mixing

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Controlling; Testing; Measuring | B01F 15/00123 |
| Methods, systems and apparatus for controlling in general | G05 |

B28C 7/04

Supplying or proportioning the ingredients {(B28C 7/022 takes precedence; forming a predetermined ratio of the components to be mixed, in general B01F 15/04)}

Special rules of classification

Classification of supplying or proportioning the ingredients is in this subclass.
proportioning is classified under B28C 7/0404.
weighing is classified under B28C 7/0422.
volumetric is classified under B28C 7/0454.
plant for proportioning supplying or batching is classified under B28C 7/0481.
supplying the solid ingredients is classified under B28C 7/06.
supplying or proportioning the liquid ingredients is classified under B28C 7/12.

B28C 7/0431
{using a weighing belt or the like}

References
Informative references
Attention is drawn to the following places, which may be of interest for search:

| Conveyor belt weighers | G01G 11/00 |

B28C 7/16
Discharge means{, e.g. with intermediate storage of fresh concrete}

Definition statement
This place covers:
Illustrative example of subject matter classified in B28C 7/16.
B28C 9/00

General arrangement or layout of plant \{(B28C 7/0061, B28C 7/0481 take precedence)\}

Definition statement

This place covers:

Illustrative example of subject matter classified in B28C 9/00.
References

Informative references

Attention is drawn to the following places, which may be of interest for search:

| Mixing plant in general | B01F 13/10 |
**B28C 9/04**

the plant being mobile, {e.g. mounted on a carriage or a set of carriages} (B28C 5/42, {B28C 9/004, B28C 9/006} take precedence)

**Definition statement**

This place covers:

Illustrative example of subject matter classified in B28C 9/04.

**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

| Hydraulic cement concrete mixers combined with distributing means specially adapted for road building | E01C 19/47 |