

C12C

BEER; PREPARATION OF BEER BY FERMENTATION (ageing or ripening by storing [C12H 1/22](#); methods for reducing the alcohol content after fermentation [C12H 3/00](#); methods for increasing the alcohol content after fermentation [C12H 6/00](#); venting devices for casks, barrels or the like [C12L 9/00](#)); PREPARATION OF MALT FOR MAKING BEER; PREPARATION OF HOPS FOR MAKING BEER

Definition statement

This place covers:

Raw materials used in preparing beer (e.g. malt, hops), and treatment thereof.

Preparation of wort.

Fermentation processes for beer.

Processes for producing special kinds of beer.

Brewing devices.

Beer per se.

Relationships with other classification places

[C12H](#) deals only with pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages.

Post-fermentation treatment such as carbonation is subject matter of this subclass but is classified in [C12H](#) when combined with subject matter of that subclass.

Low alcohol beer is classified in [C12C 12/04](#).

Low alcohol wine is classified in [C12G 1/14](#) and other low alcohol beverages are classified in [C12G 3/025](#).

References

Limiting references

This place does not cover:

Ageing or ripening by storing	C12H 1/22
Methods for reducing the alcohol content after fermentation	C12H 3/00
Methods for increasing the alcohol content after fermentation	C12H 6/00
Venting devices for casks, barrels or the like	C12L 9/00

Informative references

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

Preparation of malt for use as foodstuffs	A23L
Cleaning of raw materials, e.g. fruit and vegetables	A23N
Separation of solids from liquids in general	B01D
Containers with means for effervescing potable liquids	B65D 85/73

Pitching or depitching machines, or cellar tools	C12L
Propagating yeasts	C12N 1/14
Ethanol fermentation for non-beverage purposes	C12P 7/06

Glossary of terms

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

Beer	The term beer includes alcoholic drinks produced by the fermentation of sugars derived from grains of barley, wheat, sorghum, maize or rice.
Brew kettles	Apparatus in which the wort is boiled.
Caramel/black malt	Malt which has been sufficiently heated to caused sugars to caramelize.
Fermentation	Process whereby yeast converts sugar to ethyl alcohol.
Germ	The germ is the shoot which has started to grow from a grain.
Immobilized yeast	The yeast is absorbed on a material instead of being dispersed in the liquid.
Low alcohol	This is beer which has a lower alcohol content than would be expected from complete fermentation of the wort.
Malt	Malt is the term used for partially germinated and subsequently dried grains in which part of the starch has been converted to sugar.
Mash	Mash is a mixture of malt and water. Mashing refers to the process of extracting the sugars from the grains, often at elevated temperature.
Pitching	This is the process of adding yeast to the wort.
Steeping	Soaking the grains in water primarily to stimulate germination.
Wort	Wort is the liquid part of the mash which is left after removal of the insolubles

Synonyms and Keywords

In patent documents, the following words/expressions are often used as synonyms:

- "Low alcohol", "Reduced alcohol" and "dealcoholized"

In patent documents, the following words/expressions are often used with the meaning indicated:

"malt"	"malted barley".
" Secondary sources of starch/ sugar"	" adjuncts.
"wort"	"beerwort".
"Brew kettles"	"coppers".
" Water when used in brewing"	"liquor".

C12C 1/00

Preparation of malt

Definition statement

This place covers:

Methods or apparatus for preparing malt for brewing beer.

References

Limiting references

This place does not cover:

Malt products for use in food	A23L 7/20
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Special rules of classification

Methods or apparatus for preparing malt for purposes other than brewing beer may/might be classified in this group if there is a similarity with typical beer brewing methods/apparatus and/or if no group that is more pertinent exists.

C12C 1/02

Pretreatment of grains, e.g. washing, steeping

Definition statement

This place covers:

Methods or apparatus for the pretreatment of brewing grains, such as cleaning, washing or steeping.

References

Limiting references

This place does not cover:

Preparation of grain for milling	B02B
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C12C 1/027

Germinating

Definition statement

This place covers:

Germination of brewing grains.

C12C 1/0275

{on single or multi-stage floors}

Definition statement

This place covers:

Germination of brewing grains on single or multi-stage floors.

References

Limiting references

This place does not cover:

Germination in boxes or drums	C12C 1/033
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Special rules of classification

For the distinction of "floors" from "boxes" the dimensions are relevant: the term "floors" designates large surfaces (such as classical hurdles), whereas "boxes" implies relatively small surface areas.

Glossary of terms

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

Hurdle	Malt germination (or drying) floor
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C12C 1/033

in boxes or drums

Definition statement

This place covers:

Germination of brewing grains in boxes or drums.

References

Limiting references

This place does not cover:

Germination of brewing grains on single or multi-stage floors	C12C 1/0275
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Informative references

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

Malt drying on moving supports (may involve drums)	C12C 1/12
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Special rules of classification

For the distinction of "floors" from "boxes" the dimensions are relevant: the term "floors" designates large surfaces (such as classical hurdles), whereas "boxes" implies relatively small surface areas.

C12C 1/047

Influencing the germination by chemical or physical means

Definition statement

This place covers:

Methods or apparatus for preparing malt for brewing beer, wherein the germination is influenced by chemical and/or physical means.

C12C 1/053

by irradiation or electric {or wave energy} treatment

Definition statement

This place covers:

Methods or apparatus for preparing malt for brewing beer, wherein the germination is influenced by irradiation, electric or wave energy treatment.

C12C 1/067

Drying

Definition statement

This place covers:

Methods or apparatus for preparing brewing malt, wherein the brewing grains are subjected to drying.

References

Informative references

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

Continuous or semi-continuous drying	C12C 1/125
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Glossary of terms

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

Kilning, kiln-drying	Drying of malt in a kiln
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C12C 1/073

Processes or apparatus specially adapted to save or recover energy

Definition statement

This place covers:

Methods or apparatus specially adapted to save or recover energy during drying of brewing grains.

Special rules of classification

Since saving or recovering energy is a general goal of grain drying, this symbol should only be given if the respective means are specifically emphasised and/or claimed, i.e. if they form an important aspect of the invention.

C12C 1/10

Drying on fixed supports

Definition statement

This place covers:

Methods or apparatus for preparing brewing malt, wherein the brewing grains are subjected to drying on fixed supports.

C12C 1/12

Drying on moving supports

Definition statement

This place covers:

Methods or apparatus for preparing brewing malt, wherein the brewing grains are subjected to drying on moving supports.

Special rules of classification

This symbol is only to be given if the supports move during the drying process (i.e. rotating hurdles). For instance, floor segments that can be inclined to discharge grains do not fall within this group, because they are actuated only when drying is complete.

C12C 1/125

Continuous or semi-continuous processes for steeping, germinating or drying

Definition statement

This place covers:

Methods or apparatus for the semi-continuous or continuous steeping, germination and/or drying of brewing grains.

References

Limiting references

This place does not cover:

Batch mode steeping, germination and/or drying of brewing grains	C12C 1/02 , C12C 1/027 , C12C 1/067
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Special rules of classification

This symbol should be given if (semi-) continuous steeping, germination and/or drying is specifically emphasised and/or claimed.

C12C 1/13

with vertical transport of the grains

Definition statement

This place covers:

Methods or apparatus for the semi-continuous or continuous steeping, germination and/or drying of brewing grains, wherein the grains are transported vertically.

C12C 1/135

with horizontal transport of the grains

Definition statement

This place covers:

Methods or apparatus for the semi-continuous or continuous steeping, germination and/or drying of brewing grains, wherein the grains are transported horizontally.

C12C 1/15

Grain or malt turning, charging or discharging apparatus

Definition statement

This place covers:

Apparatus for turning, charging and/or discharging brewing grain or malt.

C12C 1/16

After-treatment of malt, e.g. malt cleaning, detachment of the germ

Definition statement

This place covers:

Methods or apparatus for the after-treatment of malt, e.g. malt cleaning or detachment of the germ.

C12C 1/18

Preparation of malt extract or of special kinds of malt, e.g. caramel, black malt (malt products for use as foodstuffs [A23L](#))

Definition statement

This place covers:

Preparation of malt extract or of special kinds of malt, e.g. caramel malt, black malt.

References

Limiting references

This place does not cover:

Preparation of wort	C12C 7/00
Malt products for use as foodstuffs	A23L 7/20

C12C 3/00

Treatment of hops

Definition statement

This place covers:

Apparatus and methods adapted for the treatment of hops used in brewing beer.

References**Limiting references**

This place does not cover:

Boiling of wort (beerwort) with hops	C12C 7/205
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C12C 3/02**Drying****Definition statement**

This place covers:

Apparatus and methods adapted for drying hops used in brewing beer.

References**Informative references**

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

Processes for drying	F26B 3/00
Apparatus for drying	F26B 9/00

C12C 3/04**Conserving; Storing; Packing****Definition statement**

This place covers:

Apparatus or methods adapted for conserving, storing and/or packaging hops used in brewing beer.

References**Limiting references**

This place does not cover:

Preservation of foods	A23L 3/00
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C12C 3/06**Powder or pellets from hops****Definition statement**

This place covers:

Apparatus or methods adapted for the preparation of hop powder or hop pellets.

C12C 3/08

Solvent extracts from hops

Definition statement

This place covers:

Methods or apparatus for the preparation of solvent extracts from hops.

References

Limiting references

This place does not cover:

Boiling of wort (beerwort) with hops	C12C 7/205
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C12C 3/085

{Extraction of hops with beerwort}

Definition statement

This place covers:

Methods or apparatus for the solvent extraction of hops with beerwort.

References

Limiting references

This place does not cover:

Boiling of wort (beerwort) with hops	C12C 7/205
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C12C 3/10

using carbon dioxide

Definition statement

This place covers:

Methods or apparatus for the solvent extraction of hops using carbon dioxide.

C12C 3/12

Isomerised products from hops

Definition statement

This place covers:

Methods or apparatus for preparing isomerised products from hops used in beer brewing.

C12C 5/00

Other raw materials for the preparation of beer

Definition statement

This place covers:

Raw materials or ingredients other than malt (or grains) and hops for the preparation of beer.

References

Limiting references

This place does not cover:

Malt	C12C 1/00
Hops	C12C 3/00

C12C 5/002

{Brewing water}

Definition statement

This place covers:

Brewing water used as ingredient for preparing beer.

C12C 5/004

{Enzymes}

Definition statement

This place covers:

Enzymes used as raw material (or as ingredient) in the preparation of beer.

References

Limiting references

This place does not cover:

The use of malt extract or special malt products as enzyme source	C12C 1/18
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C12C 5/006

{Beta-glucanase or functionally equivalent enzymes}

Definition statement

This place covers:

Beta-glucanase or functionally equivalent enzymes used as raw material or as ingredient in the preparation of beer.

Glossary of terms

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

Functionally equivalent	Beta-glucanase is usually added to avoid "gushing", i.e. undesired excessive foaming of beer. Enzymes other than Beta-glucanase used to give the same effect are considered as functionally equivalent.
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C12C 5/008

{Hop surrogates}

Definition statement

This place covers:

Use of hop surrogates as raw material or ingredient in the preparation of beer.

References

Limiting references

This place does not cover:

Hops, i.e. the standard hopping ingredient	C12C 3/00
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Glossary of terms

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

Hop surrogates	Materials used for obtaining the same or similar effects usually provided by hop, in particular flavouring.
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C12C 5/02

Additives for beer

Definition statement

This place covers:

Additives for beer.

References

Limiting references

This place does not cover:

Preserving agents for beer	C12H 1/14
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Special rules of classification

This group is considered as relating to the addition of additives to finished beer only.

C12C 5/023**{enhancing the vitamin content}****Definition statement***This place covers:*

Beer additives used for enhancing the vitamin content.

References**Limiting references***This place does not cover:*

Adding vitamins to foods	A23L 33/15
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Special rules of classification

This group covers also any vitamin containing material in so far as the purpose of its addition is indicated to be vitamin enrichment of beer.

This group is considered as relating to the addition of (vitamin containing) additives to finished beer only.

C12C 5/026**{Beer flavouring preparations}****Definition statement***This place covers:*

Beer additives used for flavouring purposes.

References**Limiting references***This place does not cover:*

Hops	C12C 3/00
Hop surrogates	C12C 5/008
Flavouring additives for non-alcoholic beverages	A23L 2/56

Special rules of classification

This group is considered as relating to the addition of flavouring additives to finished beer only.

C12C 5/04**Colouring additives****Definition statement***This place covers:*

Beer additives used for colouring purposes.

References

Limiting references

This place does not cover:

Black malt or other colouring malts	C12C 1/18
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Special rules of classification

This group is considered as relating to the addition of colouring additives to finished beer only.

C12C 7/00

Preparation of wort (malt extract [C12C 1/18](#))

Definition statement

This place covers:

Methods or apparatus for preparing wort in a beer brewing process.

Methods or apparatus for preparing wort in processes other than beer brewing, e.g. production of industrial alcohol from cereals, in so far as significant similarities with the usual beer brewing methods or apparatus and/or no classes that are more relevant exist.

Relationships with other classification places

Wort preparation is also common in the industrial / non-beverage preparation of alcohol and is covered by [C12P 7/06](#).

References

Limiting references

This place does not cover:

Malt extract	C12C 1/18
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Special rules of classification

Until further notice, wort preparation in processes other than beer brewing is also covered, in so far as it is considered that significant similarities with the usual beer brewing methods or apparatus and/or no better classes for covering the subject-matter exist.

Synonyms and Keywords

In patent documents, the following words/expressions are often used with the meaning indicated:

" Wort "	" beerwort ".
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C12C 7/01

Pretreatment of malt, e.g. malt grinding

Definition statement

This place covers:

Methods or apparatus for pre-treating malt, e.g. malt grinding used for preparing wort in a beer brewing process.

References

Informative references

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

Preparation of grain for milling in general	B02B
Milling grain in general	B02C

C12C 7/04

Preparation or treatment of the mash

Definition statement

This place covers:

Methods or apparatus for preparing or treating mash in a beer brewing process.

Relationships with other classification places

Mash preparation is also common in the industrial / non-beverage preparation of alcohol and is covered by [C12P 7/06](#).

Special rules of classification

Until further notice, mash preparation in processes other than beer brewing is also covered, in so far as it is considered that significant similarities with the usual beer brewing methods or apparatus and/or no better classes for covering the subject-matter exist.

C12C 7/042

{Mixing malt with water}

Definition statement

This place covers:

Methods or apparatus for mixing malt with water in the preparation of mash for beer brewing.

References

Limiting references

This place does not cover:

Steeping brewing grains	C12C 1/02
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C12C 7/044

{Cooling the mash ([C12C 7/067](#) takes precedence)}

Definition statement

This place covers:

Methods for cooling the mash in a beer brewing process.

References**Limiting references***This place does not cover:*

Apparatus, with cooling means for cooling the mash in a beer brewing process, per se	C12C 7/067
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C12C 7/047**part of the mash being unmalted cereal mash****Definition statement***This place covers:*

Methods for preparing or treating mash in a beer brewing process, wherein at least part of the mash is derived from unmalted cereal material.

References**Limiting references***This place does not cover:*

Use of non-cereal material	C12C 7/053
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C12C 7/053**part of the mash being non-cereal material****Definition statement***This place covers:*

Methods for preparing or treating mash in a beer brewing process, wherein at least part of the mash is derived from non-cereal material.

References**Limiting references***This place does not cover:*

Use of unmalted cereal material	C12C 7/047
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C12C 7/06**Mashing apparatus****Definition statement***This place covers:*

Mashing apparatus adapted for preparing and/or treating the mash in a beer brewing process.

Until further notice, mashing apparatus adapted for processes other than beer brewing is also covered, in so far as it is considered that significant similarities with the apparatus typically used in beer brewing and/or no better classes for covering the subject-matter exist.

Relationships with other classification places

Mashing apparatus are also commonly used in the industrial / non-beverage preparation of alcohol and is covered by [C12P 7/06](#).

C12C 7/062

{with a horizontal stirrer shaft}

Definition statement

This place covers:

Mashing apparatus with a horizontal stirrer shaft, adapted for preparing and/or treating the mash in a beer brewing process.

C12C 7/065

{with a vertical stirrer shaft}

Definition statement

This place covers:

Mashing apparatus with a vertical stirrer shaft, adapted for preparing and/or treating the mash in a beer brewing process.

C12C 7/067

{with cooling means}

Definition statement

This place covers:

Mashing apparatus with cooling means, adapted for preparing and/or treating the mash in a beer brewing process.

References

Limiting references

This place does not cover:

Methods for cooling the mash in a beer brewing process	C12C 7/044
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C12C 7/14

Lautering, i.e. clarifying wort

Definition statement

This place covers:

Methods or apparatus for converting mash into wort by clarification, which relate to a beer brewing process (typically Läuterung, i.e. "lautering").

C12C 7/16

by straining

Definition statement

This place covers:

Methods or apparatus for converting mash into wort by straining, which relate to a beer brewing process.

Synonyms and Keywords

In patent documents, the following words/expressions are often used with the meaning indicated:

" Straining "	" filtering ".
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C12C 7/161

{in a tub with a perforated false bottom}

Definition statement

This place covers:

Note: This group no longer used, see corresponding group [C12C 7/17](#).

C12C 7/163

{with transport of the mash by or relative to a filtering surface}

Definition statement

This place covers:

Methods or apparatus for converting mash into wort by straining, relating to a beer brewing process, with transport of the mash by or relative to a filtering surface.

C12C 7/165

in mash filters

Definition statement

This place covers:

Methods or apparatus for converting mash into wort by straining in mash filters, relating to a beer brewing process.

References

Limiting references

This place does not cover:

Straining in lauter tuns	C12C 7/17
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C12C 7/17

in lautertuns {, e.g. in a tub with perforated false bottom}

Definition statement

This place covers:

Methods or apparatus for converting mash into wort by straining in a lauter tun, relating to a beer brewing process.

References

Limiting references

This place does not cover:

Straining in mash filters	C12C 7/165
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Glossary of terms

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

Lauter tun	Tub or vessel having a false / perforated bottom for straining / filtering
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C12C 7/175

by centrifuging

Definition statement

This place covers:

Methods or apparatus for converting mash into wort by centrifuging, relating to a beer brewing process.

C12C 7/20

Boiling the beerwort (brew kettles [C12C 13/02](#))

Definition statement

This place covers:

Methods or apparatus for boiling the wort in a beer brewing process.

References

Limiting references

This place does not cover:

Brewing kettles used for boiling wort	C12C 13/02
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C12C 7/205

{Boiling with hops}

Definition statement

This place covers:

Methods or apparatus for boiling the wort with hops in a beer brewing process.

References

Limiting references

This place does not cover:

Hop extraction with wort	C12C 3/085
Brewing kettles used for boiling wort	C12C 13/02

C12C 7/22

Processes or apparatus specially adapted to save or recover energy

Definition statement

This place covers:

Methods or apparatus for boiling the wort with hops in a beer brewing process, which are adapted to save or recover energy.

References

Limiting references

This place does not cover:

Brewing kettles used for boiling wort in general	C12C 13/02
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Special rules of classification

This group should be used only if saving and/or recovering energy is specifically emphasised and/or claimed.

C12C 7/24

Clarifying beerwort between hop boiling and cooling

Definition statement

This place covers:

Apparatus and methods for clarifying wort between hop boiling and cooling, relating to a beer brewing process.

References

Limiting references

This place does not cover:

Clarification of wort during or after cooling; Cooling as such	C12C 7/26
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Special rules of classification

If the specific stage of clarification (i.e. before, during or after boiling) is not indicated, [C12C 7/24](#) (rather than [C12C 7/26](#)) is allocated.

This rule is based on the consideration (or assumption) that the standard brewing procedure involves clarifying prior to cooling.

C12C 7/26

Cooling beerwort; Clarifying beerwort during or after the cooling

Definition statement

This place covers:

Apparatus or methods for cooling wort and/or for clarifying wort during or after the cooling, relating to a beer brewing process.

References

Limiting references

This place does not cover:

Clarifying before cooling	C12C 7/24
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Special rules of classification

If the specific stage of clarification (i.e. before, during or after boiling) is not indicated, [C12C 7/24](#) (rather than [C12C 7/26](#)) is allocated.

This rule is based on the consideration (or assumption) that the standard brewing procedure involves clarifying prior to cooling.

C12C 7/28

After-treatment {, e.g. sterilisation ([C12C 11/00](#) takes precedence)}

Definition statement

This place covers:

Methods or apparatus for after-treatment of wort in a beer brewing process (e.g. sterilisation).

References

Limiting references

This place does not cover:

Fermentation of wort	C12C 11/00
Acidifying the wort	C12C 11/06

Special rules of classification

Until further notice, "after-treatment" is considered as covering the stages between wort boiling and fermentation. In case of doubt, "after treatment of wort " should be given a broad scope and considered as covering various types of treatment. When a certain treatment qualifies specifically as after-treatment of wort, the symbol should be given.

C12C 7/282**{Concentration or beerwort}****Definition statement***This place covers:*

Methods or apparatus for the concentration of wort in a beer brewing process.

References**Limiting references***This place does not cover:*

Drying of wort	C12C 7/285
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C12C 7/285**{Drying beerwort}****Definition statement***This place covers:*

Methods or apparatus for drying wort in a beer brewing process.

References**Limiting references***This place does not cover:*

Concentration of wort	C12C 7/282
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C12C 7/287**{Treating beerwort with hopextract ([C12C 7/205](#) takes precedence)}****Definition statement***This place covers:*

Methods or apparatus for treating wort with hop extract, as after-treatment of wort in a beer brewing process.

References**Limiting references***This place does not cover:*

Extraction of hops with beerwort	C12C 3/085
Boiling wort with hops	C12C 7/205

C12C 9/00

{Methods specially adapted for the making of beerwort}

Definition statement

This place covers:

Note: This group is no longer used, see warning in header.

C12C 9/02

{Beerwort treatment; Boiling with hops; Hop extraction}

Definition statement

This place covers:

Note: This group is no longer used, see warning in header.

C12C 9/025

{Preparation of hop extracts (extraction with beerwort [C12C 9/02](#));
Isomerisation of these extracts; Treatment of beerwort with these extracts;
Surrogates of the hop}

Definition statement

This place covers:

Note: This group is no longer used, see warning in header.

C12C 11/00

Fermentation processes for beer (preparation of wine [C12G 1/00](#))

Definition statement

This place covers:

Methods or apparatus for fermentation in a beer brewing process.

References

Limiting references

This place does not cover:

Preparation of wine	C12G 1/00
Preparation of alcoholic beverages other than beer and wine	C12G 3/00
Non-beverage alcoholic fermentation	C12P 7/06

Informative references

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

Fermentation apparatus in general	C12M
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C12C 11/003**{Fermentation of beerwort}****Definition statement***This place covers:*

Methods or apparatus adapted for the fermentation of wort in a beer brewing process.

References**Limiting references***This place does not cover:*

Continuous fermentation	C12C 11/07
Preparation of wine	C12G 1/00
Preparation of alcoholic beverages other than beer and wine	C12G 3/00
Non-beverage alcoholic fermentation	C12P 7/06

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

Fermentation apparatus in general	C12M
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C12C 11/006**{Fermentation tanks therefor}****Definition statement***This place covers:*

Fermentation tanks adapted for the fermentation of wort in a beer brewing process.

References**Limiting references***This place does not cover:*

Bioreactors, i.e. fermentation tanks for continuous fermentation	C12C 11/075
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Informative references*Attention is drawn to the following places, which may be of interest for search:*

Fermentation apparatus in general	C12M
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C12C 11/02

Pitching yeast

Definition statement

This place covers:

Methods for pitching yeast for the fermentation of wort in a beer brewing process.

References

Limiting references

This place does not cover:

Propagating yeast	C12N 1/16
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Informative references

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

Pitching and depitching machines	C12L 3/00
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Glossary of terms

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

Pitching	Seeding yeast to initiate/allow fermentation
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C12C 11/06

Acidifying the wort

Definition statement

This place covers:

Methods or apparatus adapted for acidifying the wort to be fermented in a beer brewing process.

C12C 11/07

Continuous fermentation

Definition statement

This place covers:

Methods or apparatus adapted for continuous fermentation in a beer brewing process.

References

Limiting references

This place does not cover:

Fermentation of beerwort in general (in particular discontinuous)	C12C 11/003
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Informative references

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

Fermentation apparatus in general	C12M
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Special rules of classification

This group is pertinent if the aspect of continuous fermentation is specifically emphasised and/or claimed.

This group takes precedence over [C12C 11/003](#).

C12C 11/075**{Bioreactors for continuous fermentation}****Definition statement**

This place covers:

Bioreactors adapted for continuous fermentation in a beer brewing process.

References**Limiting references**

This place does not cover:

Fermentation tanks in general (in particular for discontinuous fermentation)	C12C 11/006
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Informative references

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

Fermentation apparatus in general	C12M
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Special rules of classification

This group is pertinent if the aspect of continuous fermentation is specifically emphasised and/or claimed.

C12C 11/09**Fermentation with immobilised yeast****Definition statement**

This place covers:

Methods or apparatus adapted for fermentation in a beer brewing process, wherein immobilised yeast is used.

References**Limiting references**

This place does not cover:

Continuous fermentation	C12C 11/07
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Informative references

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

Fermentation apparatus in general	C12M
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C12C 11/11

Post fermentation treatments, e.g. carbonation, or concentration (methods for reducing the alcohol content after fermentation [C12H 3/00](#); methods for increasing the alcohol content after fermentation [C12H 6/00](#))

Definition statement

This place covers:

Methods or apparatus adapted for post fermentation treatment of fermented wort (i.e. beer), such as carbonation or concentration.

References**Limiting references**

This place does not cover:

Methods for reducing the alcohol content after fermentation	C12H 3/00
Methods for increasing the alcohol content after fermentation	C12H 6/00

Informative references

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

After-treatment of unfermented wort	C12C 7/28
Containers with means specially adapted for effervescing potable liquids	B65D 85/73
Pasteurisation, sterilisation, preservation, purification, clarification, ageing of finished alcoholic beverages, e.g. beer	C12H

C12C 12/00

Processes specially adapted for making special kinds of beer

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer.

References**Limiting references**

This place does not cover:

Preparation of special malt products	C12C 1/18
Use of hop surrogates	C12C 5/008
Beer flavouring preparations	C12C 5/026

Special rules of classification

The designation of beer as "special" inevitably involves some degree of subjectivity. This group should only be given for beer which significantly differs from standard beer and/or is emphasised/claimed as having specific particular qualities.

C12C 12/002

{using special microorganisms}

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer using special microorganisms, i.e. any non-standard microorganism which does not fall within the subgroups [C12C 12/004](#), [C12C 12/006](#) and [C12C 12/008](#), e.g. moulds such as (non-GMO) Aspergillus strains, strains of bacteria such as Acetobacter that are non-GMO and which do not belong to lactic acid bacteria

References

Informative references

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

Preparation of alcoholic beverages other than beer and wine	C12G 3/02
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C12C 12/004

{Genetically modified microorganisms}

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer using genetically modified (e.g. recombinant) microorganisms, e.g. genetically modified microbes

References

Informative references

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

Preparation of alcoholic beverages other than beer and wine	C12G 3/02
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Special rules of classification

The specific method for genetic modification is not relevant, a broad interpretation should be given.

C12C 12/006

{Yeasts (processes for seeding [C12C 11/02](#))}

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer using special yeasts, i.e. not standard or pitching yeast, e.g. yeast having magnetic particles adsorbed onto the cell surface, yeast

Definition statement

attenuated by UV radiation, yeast isolated from soil of a volcanic area, genetically modified yeast, yeast with increased enzyme activity such as to produce a high amount of volatile flavour compounds

References

Limiting references

This place does not cover:

Fermentation using standard yeast	C12C 11/00
Fermentation using pitching yeast	C12C 11/02

Informative references

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

Preparation of alcoholic beverages other than beer and wine	C12G 3/02
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Special rules of classification

This symbol should be given if the character of the yeast used for fermentation is emphasised or claimed as being special.

C12C 12/008

{Lactic acid bacteria}

Definition statement

This place covers:

Methods or apparatus specially adapted for making special kinds of beer using lactic acid bacteria.

C12C 12/02

Beer with low calorie content ([C12C 12/04](#) takes precedence)

Definition statement

This place covers:

Methods or apparatus adapted for preparing beer with low calorie content.

References

Limiting references

This place does not cover:

Preparation of beer with low alcohol content	C12C 12/04
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C12C 12/04

Beer with low alcohol content (methods for reducing the alcohol content after fermentation [C12H 3/00](#))

Definition statement

This place covers:

Methods or apparatus adapted for preparing beer with low alcohol content.

References

Limiting references

This place does not cover:

Methods for reducing the alcohol content after fermentation	C12H 3/00
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Informative references

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

Non-alcoholic beverages	A23L 2/00
Preparation of low alcoholic beverages other than wine and beer by fermentation	C12G 3/025
Reducing the alcohol content of alcoholic beverages other than wine and beer prepared by fermentation	C12G 3/08

C12C 13/00

Brewing devices, not covered by a single group of [C12C 1/00](#) - [C12C 12/04](#)

Definition statement

This place covers:

Apparatus or devices for beer brewing, the classification of which is not completely covered by a single group of [C12C 1/00](#) - [C12C 12/04](#).

C12C 13/02

Brew kettles {([C12C 11/075](#) takes precedence)}

Definition statement

This place covers:

Brew kettles for use in beer brewing.

References

Limiting references

This place does not cover:

Apparatus adapted for saving or recovering energy during the boiling of wort with hops	C12C 7/22
Fermentation tanks for fermenting wort	C12C 11/006
Bioreactors for continuous wort fermentation	C12C 11/075

C12C 13/025

{heated with steam}

Definition statement

This place covers:

Brew kettles for use in beer brewing which are heated with steam.

C12C 13/06

heated with fire

Definition statement

This place covers:

Brew kettles for use in beer brewing which are heated with fire.

Note: This technology is no longer in use, mainly very old documents are classified in this group.

C12C 13/08

with internal heating elements

Definition statement

This place covers:

Brew kettles for use in beer brewing comprising internal heating elements.

C12C 13/10

Home brew equipment

Definition statement

This place covers:

Equipment for brewing beer on a domestic (or small) scale. Microbrewing equipment.

Glossary of terms

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

Home brewing, Microbrewing	Brewing beer on a small scale, e.g. at home or in restaurants or pubs.
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