

# Bitter Bramling

- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **33**
- SRM **11.4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.3 liter(s)**
- Total mash volume **27 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**

## Mash step by step

- Heat up **20.3 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Sparge using **16.9 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	6 kg (88.9%)	80 %	7
Grain	Crystal	0.5 kg (7.4%)	80 %	163
Grain	Strzegom Karmel 150	0.25 kg (3.7%)	75 %	150

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	40 g	60 min	4.5 %
Boil	East Kent Goldings	20 g	60 min	5.1 %
Boil	Bramling Cross	10 g	60 min	4.3 %
Boil	Fuggles	10 g	20 min	4.5 %
Boil	East Kent Goldings	10 g	20 min	5.1 %
Aroma (end of boil)	Bramling Cross	40 g	0 min	4.3 %
Aroma (end of boil)	East Kent Goldings	20 g	0 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM10 O czym szumią wierzby	Ale	Slant	500 ml	Fermentum Mobile

## Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	5 g	Mash	60 min