

# bitter

- Gravity **9 BLG**
- ABV **3.5 %**
- IBU **35**
- SRM **8**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **10 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **5 min**
- Evaporation rate **10 %/h**
- Boil size **30.3 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **2 liter(s) / kg**
- Mash size **8 liter(s)**
- Total mash volume **12.1 liter(s)**

## Steps

- Temp **64 C**, Time **60 min**

## Mash step by step

- Heat up **8 liter(s)** of strike water to **75.1C**
- Add grains
- Keep mash **60 min** at **64C**
- Sparge using **26.3 liter(s)** of **76C** water or to achieve **30.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3 kg (74.6%)	79 %	6
Grain	Strzegom Pszeniczny	0.5 kg (12.4%)	81 %	6
Grain	Strzegom Karmel 600	0.12 kg (3%)	68 %	601
Grain	Viking cookie	0.2 kg (5%)	60 %	50
Grain	strzegom caramel pale	0.2 kg (5%)	60 %	8

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	13.5 %
Aroma (end of boil)	Fuggles	15 g	15 min	4.5 %
Aroma (end of boil)	Marynka	10 g	15 min	7 %
Aroma (end of boil)	East Kent Goldings	15 g	5 min	5.1 %
Aroma (end of boil)	Fuggles	10 g	5 min	4.5 %
Aroma (end of boil)	Marynka	25 g	0 min	7 %
Aroma (end of boil)	East Kent Goldings	10 g	0 min	5.1 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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Safale S-04	Ale	Dry	11 g	Safale
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