

# Bitter

- Gravity **10.4 BLG**
- ABV ---
- IBU **22**
- SRM **10.6**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **10 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.2 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **7.2 liter(s)**
- Total mash volume **9.6 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **75 C**, Time **10 min**

## Mash step by step

- Heat up **7.2 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **75C**
- Sparge using **10.4 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	2 kg (83.3%)	79 %	6
Grain	Strzegom Karmel 150	0.15 kg (6.3%)	75 %	150
Grain	Oats, Flaked	0.1 kg (4.2%)	80 %	2
Grain	bursztynowy	0.15 kg (6.3%)	75 %	70

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	10 g	15 min	13.5 %
Boil	Palisade	15 g	10 min	7.5 %
Boil	Willamette	20 g	0 min	5.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	6 g	Safale