

Modern Bitter

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **35**
- SRM **5.6**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **13.4 liter(s)**
- Total mash volume **18.2 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **13.4 liter(s)** of strike water to **76.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **78C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4.5 kg (93.8%)	79 %	6
Grain	Strzegom Karmel 150	0.1 kg (2.1%)	75 %	150
Grain	Strzegom Pszeniczny	0.2 kg (4.2%)	81 %	6

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	15 g	60 min	11 %
Boil	iunga	15 g	30 min	10.5 %
Boil	iunga	5 g	10 min	13.2 %
Aroma (end of boil)	lunga	70 g	0 min	11 %
Aroma (end of boil)	Citra	30 g	0 min	12 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Fermentis