

American bitter

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **34**
- SRM **4.4**
- Style **Standard/Ordinary Bitter**

Batch size

- Expected quantity of finished beer **50 liter(s)**
- Trub loss **5 %**
- Size with trub loss **52.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **63.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **32.7 liter(s)**
- Total mash volume **43.6 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **77 C**, Time **10 min**

Mash step by step

- Heat up **32.7 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **77C**
- Sparge using **41.5 liter(s)** of **76C** water or to achieve **63.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (27.5%)	80 %	5
Grain	Strzegom Pilzneński	5.8 kg (53.2%)	80 %	4
Grain	Weyermann - Vienna Malt	0.6 kg (5.5%)	81 %	8
Grain	Strzegom Monachijski typ I	0.5 kg (4.6%)	79 %	16
Grain	Cookie	0.3 kg (2.8%)	78 %	60
Grain	Pszeniczny	0.7 kg (6.4%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	30 g	60 min	15.5 %
Boil	Amarillo	20 g	60 min	9.5 %
Boil	Cascade	15 g	10 min	6 %
Aroma (end of boil)	Citra	30 g	3 min	12 %