

Battleaxe

- Gravity **14 BLG**
- ABV **5.8 %**
- IBU **57**
- SRM **7.5**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **26 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.3 liter(s)**
- Boil time **70 min**
- Evaporation rate **14.4 %/h**
- Boil size **34.9 liter(s)**

Mash information

- Mash efficiency **81 %**
- Liquor-to-grist ratio **3.7 liter(s) / kg**
- Mash size **24.8 liter(s)**
- Total mash volume **31.5 liter(s)**

Steps

- Temp **50 C**, Time **15 min**
- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **24.8 liter(s)** of strike water to **54.1C**
- Add grains
- Keep mash **15 min** at **50C**
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **16.8 liter(s)** of **76C** water or to achieve **34.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4.2 kg (62.2%)	80 %	4
Grain	Strzegom Wiedeński	1 kg (14.8%)	79 %	10
Grain	Pszeniczny	1 kg (14.8%)	85 %	4
Grain	Słód Caramunich Typ II Weyermann	0.5 kg (7.4%)	73 %	120
Sugar	Cukier	0.055 kg (0.8%)	--- %	---

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	50 g	60 min	12.4 %
Whirlpool	Cascade PL	50 g	25 min	5.2 %
Dry Hop	Cascade PL	100 g	6 day(s)	5.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
US 05	Ale	Dry	10 g	Safale