

Brygadowe

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **35**
- SRM **7.3**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **30.4 liter(s)**

Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **75C**
- Sparge using **20.4 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale (Malteurop)	4.5 kg (90%)	80 %	7
Grain	Biscuit Malt	0.5 kg (10%)	79 %	100

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	10 g	60 min	15.5 %
Boil	Cascade	15 g	10 min	6 %
Boil	Amarillo	15 g	10 min	9.5 %
Boil	Citra	15 g	10 min	12 %
Boil	Cascade	15 g	5 min	6 %
Boil	Citra	15 g	5 min	12 %
Boil	Amarillo	15 g	5 min	9.5 %
Whirlpool	Cascade	15 g	15 min	6 %
Whirlpool	Citra	15 g	15 min	12 %
Whirlpool	Amarillo	15 g	15 min	9.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
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Safale S-04	Ale	Slant	200 ml	Safale
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