

Pine

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **28**
- SRM **7.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.25 liter(s) / kg**
- Mash size **17.9 liter(s)**
- Total mash volume **23.4 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **79 C**, Time **5 min**

Mash step by step

- Heat up **17.9 liter(s)** of strike water to **71.9C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **79C**
- Sparge using **19.3 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3 kg (50%)	81 %	4
Sugar	Milk Sugar (Lactose)	0.5 kg (8.3%)	76.1 %	0
Grain	Pszeniczny	1.5 kg (25%)	85 %	4
Grain	Żytni	0.5 kg (8.3%)	85 %	8
Grain	Fawcett - Crystal	0.5 kg (8.3%)	70 %	130

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Simcoe	15 g	20 min	13.2 %
Aroma (end of boil)	Vic Secret	20 g	20 min	16.3 %
Dry Hop	Vic Secret	30 g	10 day(s)	16.3 %
Dry Hop	Simcoe	25 g	10 day(s)	13.2 %
Dry Hop	Ella (AUS)	20 g	7 day(s)	14.6 %
Dry Hop	Equinox	70 g	7 day(s)	13.1 %
Dry Hop	Simcoe	20 g	4 day(s)	13.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Dry	20 g	---

Extras

Type	Name	Amount	Use for	Time
Flavor	Ananas	1500 g	Secondary	7 day(s)