

Usapils

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **33**
- SRM **4.7**
- Style **Classic American Pilsner**

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 **83 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **18.7 liter(s)**
- Total mash volume **24.1 liter(s)**

Steps

- Temp **65 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **5 min**

Mash step by step

- Heat up **18.7 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **40 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **77C**
- Sparge using **17.1 liter(s)** of **76C** water or to achieve **30.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.3 kg (80.4%)	81 %	4
Grain	Weyermann - Carapils	0.25 kg (4.7%)	78 %	4
Grain	Weyermann - Caraamber	0.1 kg (1.9%)	75 %	65
Grain	Monachijski	0.5 kg (9.3%)	80 %	16
Grain	Viking melanoidynowy	0.1 kg (1.9%)	75 %	60
Grain	Rice, Flaked	0.1 kg (1.9%)	70 %	2

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Waimea	6 g	40 min	17 %
Aroma (end of boil)	Citra	30 g	5 min	13.8 %
Dry Hop	Citra	20 g	4 day(s)	12 %
Aroma (end of boil)	Waimea	30 g	10 min	17 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M84 Bohemian Lager	Lager	Slant	100 ml	Man