

Grabie

- Gravity **13.2 BLG**
- ABV ---
- IBU **41**
- SRM **7.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **28.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

Steps

- Temp **50 C**, Time **30 min**
- Temp **68 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **15.9 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **30 min** at **50C**
- Keep mash **30 min** at **68C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **28.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (75.5%)	79 %	6
Grain	Strzegom Pilzneński	1 kg (18.9%)	80 %	4
Grain	Strzegom karmelowy bursztynowy	0.3 kg (5.7%)	70 %	70

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	25 g	60 min	10.5 %
Aroma (end of boil)	Mouteka	20 g	20 min	8 %
Aroma (end of boil)	Citra	20 g	5 min	12 %
Whirlpool	Pacific Gem	30 g	0 min	15.3 %

Yeasts

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

Extras

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Type	Name	Amount	Use for	Time
Fining	Mech irlandzki	15 g	Boil	15 min