

Apa

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **47**
- SRM **3.9**
- Style **American IPA**

Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.7 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **16.6 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **14 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **10.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **9.6 liter(s)** of **76C** water or to achieve **16.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3.3 kg (94.3%)	81 %	4
Grain	Cara body	0.2 kg (5.7%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	10 g	60 min	11 %
Aroma (end of boil)	Zula	20 g	30 min	8.3 %
Aroma (end of boil)	Książęcy	20 g	10 min	7 %
Whirlpool	Książęcy	10 g	0 min	7 %