

Apa

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **35**
- SRM **4.6**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.6 liter(s)**
- Total mash volume **12.8 liter(s)**

Steps

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

Mash step by step

- Heat up **9.6 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **8.8 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (93.8%)	80 %	5
Grain	Strzegom Monachijski typ I	0.2 kg (6.3%)	79 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Zula	10 g	60 min	8.3 %
Aroma (end of boil)	Książęcy	25 g	10 min	7 %
Whirlpool	rody hodowlane	30 g	10 min	9.3 %