

## na koniec

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **76**
- SRM **9.6**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.9 liter(s)**
- Total mash volume **13.2 liter(s)**

### Steps

- Temp **62 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **9.9 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **60 min** at **62C**
- Keep mash **1 min** at **78C**
- Sparge using **7.9 liter(s)** of **76C** water or to achieve **14.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2 kg (60.6%)	80 %	5
Grain	Pilzneński	1 kg (30.3%)	81 %	4
Grain	Weyermann Caramunich 3	0.3 kg (9.1%)	76 %	150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	30 g	15 min	12 %
Boil	Amarillo	30 g	15 min	9.5 %
Whirlpool	Citra	20 g	15 min	12 %
Whirlpool	Amarillo	20 g	15 min	9.5 %
Dry Hop	Citra	10 g	5 day(s)	12 %
Dry Hop	Amarillo	10 g	5 day(s)	9.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM52 Amerykański Sen	Ale	Liquid	100 ml	Fermentum Mobile