

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **47**
- SRM **3.7**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **51.4 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24.5 liter(s)**
- Total mash volume **32.6 liter(s)**

### Steps

- Temp **64 C**, Time **40 min**
- Temp **68 C**, Time **20 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **24.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **68C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **35.1 liter(s)** of **76C** water or to achieve **51.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	6.64 kg (81.4%)	80 %	5
Grain	Strzegom Pszeniczny	1.52 kg (18.6%)	81 %	6

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	32 g	60 min	13.5 %
Boil	Cascade	31 g	60 min	6 %
Boil	Cascade	30 g	15 min	6 %
Boil	Equinox	35 g	5 min	13.1 %
Aroma (end of boil)	Cascade	45 g	0 min	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	23 g	fermentis

### Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	10 g	Boil	15 min