

Smrek

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **24**
- SRM **4.9**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **26.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **64 C**, Time **30 min**
- Temp **68 C**, Time **25 min**
- Temp **72 C**, Time **15 min**
- Temp **80 C**, Time **15 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **25 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **15 min** at **80C**
- Sparge using **14.4 liter(s)** of **76C** water or to achieve **26.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Malt (2 Row) Bel	2.5 kg (50%)	80 %	6
Grain	Pilzneński	2 kg (40%)	81 %	4
Grain	Carahell	0.5 kg (10%)	77 %	26

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	15 g	60 min	7.4 %
Boil	Chinook	8.5 g	60 min	13 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale

Extras

Type	Name	Amount	Use for	Time
Spice	świerk	150 g	Boil	30 min
Spice	świerk	70 g	Boil	1 min