

SMARAGD

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **39**
- SRM **4.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **3 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **18 %/h**
- Boil size **25.7 liter(s)**

Mash information

- Mash efficiency **89 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **75.6 C**, Time **10 min**

Mash step by step

- Heat up **12 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **75.6C**
- Sparge using **17.7 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3 kg (75%)	80 %	5
Grain	Strzegom Monachijski typ I	0.8 kg (20%)	79 %	16
Grain	Karmelowy Jasny 30EBC	0.2 kg (5%)	75 %	30

Hops

Use for	Name	Amount	Time	Alpha acid
First Wort	Marynka	10 g	60 min	10 %
Boil	Smaragd	20 g	30 min	8 %
Aroma (end of boil)	Smaragd	30 g	5 min	8 %
Whirlpool	Smaragd	25 g	15 min	8 %
Dry Hop	Smaragd	25 g	5 day(s)	8 %

Yeasts

Name	Type	Form	Amount	Laboratory
US West Coast	Ale	Dry	10 g	Gozdawa