

Black forest

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **25**
- SRM **24.7**
- Style **Dark American Lager**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **23.1 liter(s)**
- Total mash volume **29.7 liter(s)**

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4.5 kg (68.2%)	80 %	5
Grain	Pszoniczny	1 kg (15.2%)	85 %	4
Grain	Strzegom Karmel 300	0.3 kg (4.5%)	70 %	299
Grain	karmelowy 30	0.5 kg (7.6%)	75 %	30
Grain	Carafa II	0.3 kg (4.5%)	70 %	1000

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	25 g	60 min	6.7 %
Boil	Sybilla	20 g	10 min	3.5 %
Boil	Saaz (Czech Republic)	20 g	10 min	4.5 %
Aroma (end of boil)	Saaz (Czech Republic)	20 g	1 min	4.5 %
Boil	Marynka	8 g	10 min	6.7 %
Aroma (end of boil)	Centennial	20 g	1 min	10.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Slant	200 ml	Fermentis

Extras

Type	Name	Amount	Use for	Time
Flavor	Pędy sosny	50 g	Boil	0 min
Flavor	Pędy świerka	100 g	Boil	0 min
Flavor	Pędy sosny	50 g	Boil	30 min

Flavor	pȩdy świerka	200 g	Boil	30 min
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Notes

- Wyszło 15 blg, 18 l, fermentacja do 5 blg.
Jan 29, 2024, 9:02 PM