

Black Elf

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **36**
- SRM **39.3**
- Style **Dry Stout**

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 **24.6 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.4 liter(s)**
- Total mash volume **21.1 liter(s)**

Steps

- Temp **67 C**, Time **60 min**

Mash step by step

- Heat up **16.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **12.9 liter(s)** of **76C** water or to achieve **24.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Wiedeński	3.5 kg (74.5%)	79 %	10
Grain	Strzegom Czekoladowy jasny	0.5 kg (10.6%)	68 %	400
Grain	Strzegom Czekoladowy ciemny	0.5 kg (10.6%)	68 %	1200
Grain	Viking Wędzony czereśnią	0.2 kg (4.3%)	82 %	10

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	20 g	60 min	15.5 %
Aroma (end of boil)	Oktawia	25 g	0 min	7.1 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	---