

Milk

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **32**
- SRM **39.6**
- Style **Sweet Stout**

Batch size

- Expected quantity of finished beer **42 liter(s)**
- Trub loss **5 %**
- Size with trub loss **44.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **53.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **38.3 liter(s)**
- Total mash volume **51 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **38.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **27.6 liter(s)** of **76C** water or to achieve **53.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	5 kg (39.2%)	80 %	5.5
Grain	Pszeniczny	5 kg (39.2%)	85 %	4
Grain	Czekoladowy	1.4 kg (11%)	60 %	788
Grain	Carafa II	0.75 kg (5.9%)	70 %	812
Grain	karmelowy 150	0.6 kg (4.7%)	--- %	100

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	iunga	20 g	60 min	11 %
Boil	Herkules	20 g	60 min	18 %
Boil	Sybilla	30 g	10 min	6 %
Whirlpool	Lublin (Lubelski)	30 g	10 min	4 %
Dry Hop	Lubelski	40 g	10 day(s)	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
bulldog b4 english ale	Ale	Dry	20 g	---

Extras

Type	Name	Amount	Use for	Time
Flavor	laktoza	1000 g	Boil	15 min
Flavor	płatki błyskawiczne	500 g	Mash	60 min
Herb	mieta	20 g	Boil	10 min