

Kaskader

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **51**
- SRM **38.8**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.1 liter(s)**
- Total mash volume **22.8 liter(s)**

Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **17.1 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.6 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2 kg (35.1%)	80 %	5
Grain	Abbey Castle	0.25 kg (4.4%)	80 %	45
Grain	Weyermann - Carafa III	0.45 kg (7.9%)	70 %	1300
Grain	Płatki żytnie	0.4 kg (7%)	85 %	3
Grain	Weyermann - Chocolate Wheat	0.15 kg (2.6%)	74 %	1000
Grain	Weyermann - Carafa I	0.25 kg (4.4%)	70 %	800
Grain	Pszeniczny	2.2 kg (38.6%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	35 g	60 min	11 %
Boil	Marynka	15 g	60 min	10 %
Whirlpool	Galaxy	20 g	20 min	15 %
Whirlpool	Cascade	15 g	20 min	6 %
Whirlpool	Amarillo	20 g	20 min	9.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Slant	150 ml	---

Notes

- Hopstand 70st C na 20min.
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