

Tas

- Gravity **12.9 BLG**
- ABV ---
- IBU **28**
- SRM **15.9**
- Style **Belgian Pale Ale**

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 liter(s) / kg**
- Mash size **14.2 liter(s)**
- Total mash volume **18.9 liter(s)**

Steps

- Temp **68 C**, Time **90 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **14.2 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **90 min** at **68C**
- Keep mash **10 min** at **78C**
- Sparge using **15.8 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castlemalting Pale Ale	3.8 kg (80.3%)	80 %	8
Grain	Pearl Pale Ale	0.3 kg (6.3%)	80 %	5
Grain	Karmelowy Czerwony	0.4 kg (8.5%)	75 %	59
Grain	Karmel 300	0.2 kg (4.2%)	70 %	299
Grain	Black of black	0.03 kg (0.6%)	72 %	500

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Topaz	5 g	60 min	15 %
Boil	Topaz	15 g	10 min	15 %
Boil	Topaz	20 g	5 min	15 %
Boil	Topaz	15 g	2 min	15 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	100 ml	Fermentis

Extras

Type	Name	Amount	Use for	Time
Fining	mech irlandzki	4 g	Boil	10 min

Notes

- Słód Black of Black dodaj po podgrzaniu zacieru do 78 stopni na 10 minut.
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