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- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **40**
- SRM **10.9**
- Style **English IPA**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.9 liter(s)**
- Total mash volume **14.6 liter(s)**

Steps

- Temp **40 C**, Time **10 min**
- Temp **52 C**, Time **10 min**
- Temp **62 C**, Time **20 min**
- Temp **72 C**, Time **20 min**

Mash step by step

- Heat up **10.9 liter(s)** of strike water to **43.3C**
- Add grains
- Keep mash **10 min** at **40C**
- Keep mash **10 min** at **52C**
- Keep mash **20 min** at **62C**
- Keep mash **20 min** at **72C**
- Sparge using **8.1 liter(s)** of **76C** water or to achieve **15.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Wheat Malt	1 kg (26.3%)	82 %	4
Grain	Briess - Rye Malt	1 kg (26.3%)	80 %	7
Grain	BESTMALZ - Best Minich	1 kg (26.3%)	80.5 %	16
Grain	BEST Caramel® Munich II	0.4 kg (10.5%)	75 %	120
Adjunct	Oats, Flaked	0.15 kg (3.9%)	80 %	2
Grain	Kasza Gryczana	0.25 kg (6.6%)	70 %	---

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	15 g	60 min	4.5 %
Boil	Saaz (Czech Republic)	12 g	45 min	4.5 %
Boil	Amarillo	12 g	10 min	9.5 %
Boil	Chinook	14 g	10 min	13 %

Aroma (end of boil)	Chinook	10 g	5 min	13 %
Dry Hop	Mosaic	20 g	3 day(s)	10 %
Dry Hop	Simcoe	20 g	3 day(s)	13.2 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	50 g	---