

APA

- Gravity **14 BLG**
- ABV ---
- IBU **30**
- SRM **5.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **76C**
- Sparge using **16.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilznieński	4 kg (80%)	81 %	4
Grain	Pszeniczny	0.5 kg (10%)	85 %	4
Grain	Rye, Flaked	0.2 kg (4%)	78.3 %	4
Grain	Strzegom Karmel 30	0.2 kg (4%)	75 %	30
Grain	Karmelowy Ciemny	0.1 kg (2%)	80 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	8.6 %
Aroma (end of boil)	Galaxy	10 g	30 min	13.3 %
Whirlpool	Galaxy	40 g	80 min	13.3 %
Dry Hop	Galaxy	50 g	5 day(s)	13.3 %

Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11.5 g	Fermentis

Extras

Type	Name	Amount	Use for	Time
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Water Agent	Gips piwowarski	6 g	Boil	60 min
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Notes

- hop stand 80C - 80 min
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