

WARKA #4 ŚCIEPKI

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **58**
- SRM **4.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **8 liter(s)**
- Trub loss **5 %**
- Size with trub loss **8.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **10.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **6.6 liter(s)**
- Total mash volume **8.5 liter(s)**

Steps

- Temp **64 C**, Time **70 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **6.6 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **70 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **5.4 liter(s)** of **76C** water or to achieve **10.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszeniczny	0.5 kg (23.8%)	--- %	5
Grain	Weyermann - Pale Ale Malt	1.4 kg (66.7%)	85 %	6
Adjunct	Płatki owsiane	0.2 kg (9.5%)	85 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Centennial	10 g	60 min	8.9 %
Boil	Chinook	12 g	30 min	12.8 %
Aroma (end of boil)	Cascade PL	10 g	10 min	5.5 %
Dry Hop	Chinook	16 g	3 day(s)	12.8 %
Dry Hop	Cascade PL	15 g	3 day(s)	5.5 %
Dry Hop	Centennial	15 g	3 day(s)	8.9 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Dry	11.5 g	Mangrove Jack's