

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **34**
- SRM **5.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **16.1 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.2 liter(s)**
- Boil time **85 min**
- Evaporation rate **28.5 %/h**
- Boil size **24.6 liter(s)**

Mash information

- Mash efficiency **79.5 %**
- Liquor-to-grist ratio **3.85 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **18.9 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **7 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **72C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **13.5 liter(s)** of **76C** water or to achieve **24.6 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Mep©Ale	2.17 kg (55.6%)	82.2 %	4.8
Grain	pale ale - viking	0.845 kg (21.6%)	80 %	5.5
Grain	płatki owsiane	0.389 kg (10%)	83 %	3
Grain	pszeniczny - bruntal	0.3 kg (7.7%)	83 %	5
Grain	Cookie - viking	0.2 kg (5.1%)	72 %	50

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Warrior	11 g	60 min	14.7 %
Aroma (end of boil)	Denali	20 g	5 min	14.2 %
Aroma (end of boil)	Denali	30 g	1 min	14.2 %
Aroma (end of boil)	Galaxy	20 g	1 min	14.5 %
Dry Hop	Denali	30 g	2 day(s)	14.2 %
Dry Hop	Mosaic	30 g	2 day(s)	12.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
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WLP090 - San Diego Super Yeast	Ale	Liquid	40 ml	White Labs
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Extras

Type	Name	Amount	Use for	Time
Water Agent	gips	2.5 g	Mash	---
Water Agent	kwask mlekowy 80% [ml]	4.49 g	Mash	---
Water Agent	chlorek wapnia [ml]	0 g	Mash	---
Water Agent	epsom	0.5 g	Mash	---
Water Agent	mech irlandzki	3 g	Boil	10 min
Water Agent	kwask askorbinowy	3 g	Bottling	---