

AW

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **17**
- SRM **3.4**
- Style **American Wheat or Rye Beer**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **12.8 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **6.6 liter(s)**
- Total mash volume **8.8 liter(s)**

Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **6.6 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **8.4 liter(s)** of **76C** water or to achieve **12.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszeniczny	1.1 kg (50%)	85 %	4
Grain	Pilznieński	1.1 kg (50%)	81 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Columbus/Tomahawk/Zeus	2.5 g	60 min	15.5 %
Aroma (end of boil)	Mosaic	7 g	5 min	10 %
Aroma (end of boil)	denali	7 g	5 min	14 %
Whirlpool	Mosaic	10.5 g	0 min	10 %
Whirlpool	denali	10.5 g	0 min	14 %
Dry Hop	Mosaic	28.5 g	3 day(s)	10 %
Dry Hop	denali	28.5 g	3 day(s)	14 %

Yeasts

Name	Type	Form	Amount	Laboratory
WLP090 - San Diego Super Yeast	Ale	Slant	500 ml	White Labs

Notes

- Ew. zamień denali na citre. Jeśli denali - szmata
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