

Helles

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **23**
- SRM **4.5**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **16.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.6 liter(s)**
- Total mash volume **12.8 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **65 C**, Time **60 min**

Mash step by step

- Heat up **9.6 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **60 min** at **65C**
- Sparge using **10 liter(s)** of **76C** water or to achieve **16.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	2.7 kg (84.4%)	82 %	4
Grain	Strzegom Monachijski typ I	0.5 kg (15.6%)	79 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau tango	15 g	60 min	7.8 %
Boil	Hallertau tango	5 g	15 min	7.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast - 2278 Czech Pils	Lager	Liquid	100 ml	Wyeast Labs

Notes

- Woda kranowa RO1:1 22.5L -> kwas mlekowy 2,5L
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