

Helles

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **17**
- SRM **4.3**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **66 liter(s)**
- Trub loss **1 %**
- Size with trub loss **68 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **77.7 liter(s)**

Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **45 liter(s)**
- Total mash volume **60 liter(s)**

Steps

- Temp **78 C**, Time **5 min**
- Temp **65 C**, Time **60 min**

Mash step by step

- Heat up **45 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **5 min** at **78C**
- Sparge using **47.7 liter(s)** of **76C** water or to achieve **77.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	13 kg (86.7%)	82 %	4
Grain	Pszeniczny	1 kg (6.7%)	85 %	4
Grain	Viking Melanoidynowy	0.5 kg (3.3%)	70 %	60
Grain	Weyermann - Carapils	0.5 kg (3.3%)	78 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	Sladek	100 g	20 min	7.7 %
Aroma (end of boil)	Saaz (Czech Republic)	150 g	1 min	3 %