

#12 Munich Helles

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **20**
- SRM **3.8**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **3 %**
- Size with trub loss **21.6 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **26.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.1 liter(s)**
- Total mash volume **20.7 liter(s)**

Steps

- Temp **50 C**, Time **20 min**
- Temp **64 C**, Time **30 min**
- Temp **70 C**, Time **30 min**

Mash step by step

- Heat up **16.1 liter(s)** of strike water to **54.3C**
- Add grains
- Keep mash **20 min** at **50C**
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **70C**
- Sparge using **15.4 liter(s)** of **76C** water or to achieve **26.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	3.5 kg (76.1%)	80 %	4
Grain	Strzegom Wiedeński	0.5 kg (10.9%)	79 %	10
Grain	Strzegom Monachijski typ I	0.1 kg (2.2%)	79 %	16
Grain	Bestmalz Carmel Pils	0.5 kg (10.9%)	75 %	5

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Sybilla	10 g	70 min	7 %
Boil	Sybilla	30 g	15 min	7 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	11.5 g	Fermentis