Lager

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **11**
- SRM **5.9**
- Style **Standard American Lager**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.8 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.4 liter(s)**
- Total mash volume **21.1 liter(s)**

Steps

- Temp **52 C**, Time **5 min**
- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.4 liter(s)** of strike water to **56.6C**
- Add grains
- Keep mash **5 min** at **52C**
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **16.1 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	4 kg *(85.1%)*	82 %	4
Grain	Strzegom Wiedeński	0.5 kg *(10.6%)*	79 %	10
Grain	Strzegom Karmel 150	0.2 kg *(4.3%)*	75 %	150

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	10 g	20 min	10 %
Whirlpool	Enigma (AUS)	15 g	10 min	17.2 %

Yeasts

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