

## Lager karmelowy 2

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- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **57**
- SRM **4.2**
- Style **Standard American Lager**

### Batch size

- Expected quantity of finished beer **100 liter(s)**
- Trub loss **5 %**
- Size with trub loss **105 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **126.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **63 liter(s)**
- Total mash volume **84 liter(s)**

### Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **15 min**

### Mash step by step

- Heat up **63 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **15 min** at **76C**
- Sparge using **84.5 liter(s)** of **76C** water or to achieve **126.5 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Monachijski typ II	3 kg (14.3%)	85 %	22
Grain	Pilzneński	13 kg (61.9%)	85 %	4
Grain	Briess - Carapils Malt	5 kg (23.8%)	80 %	3

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	100 g	60 min	10 %
Boil	Target	100 g	60 min	10.5 %
Boil	Lublin (Lubelski)	50 g	30 min	4 %
Aroma (end of boil)	Lublin (Lubelski)	50 g	5 min	4 %
Boil	Sybilla	50 g	60 min	3.5 %
Aroma (end of boil)	Sybilla	50 g	5 min	3.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M84 Bohemian Lager	Lager	Dry	50 g	Mangrove Jack's