

# Lager karmelowy III

- Gravity **10.5 BLG**
- ABV **4.2 %**
- IBU **35**
- SRM **9.2**
- Style **Standard American Lager**

## Batch size

- Expected quantity of finished beer **140 liter(s)**
- Trub loss **5 %**
- Size with trub loss **147 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **177.1 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **84 liter(s)**
- Total mash volume **112 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **15 min**

## Mash step by step

- Heat up **84 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **78C**
- Sparge using **121.1 liter(s)** of **76C** water or to achieve **177.1 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński viking malt	17 kg (60.7%)	85 %	4
Grain	Monachijski Viking	5 kg (17.9%)	85 %	14
Grain	Karmelowy Jasny 30EBC	5 kg (17.9%)	75 %	40
Grain	Caraaroma	1 kg (3.6%)	78 %	350

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Tradition	100 g	60 min	6.3 %
Boil	Lubelski	100 g	60 min	4 %
Boil	Lublin (Lubelski)	60 g	30 min	6.5 %
Aroma (end of boil)	Puławski	60 g	5 min	7.3 %
Aroma (end of boil)	Hallertau	60 g	5 min	4.3 %
Boil	Magnat	60 g	60 min	9.8 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	80 g	Fermentis