

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 |