

## karmelowe H9

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **25**
- SRM **11.8**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.4 liter(s)**
- Total mash volume **27.2 liter(s)**

### Steps

- Temp **52 C**, Time **10 min**
- Temp **62 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **20.4 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **60 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **18.1 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner zero	4 kg (58.8%)	82 %	4
Grain	Cookie Viking malt (bursztynowy )	1.5 kg (22.1%)	--- %	55
Grain	Amber	1 kg (14.7%)	70 %	70
Grain	Karmelowy Jasny 30EBC	0.3 kg (4.4%)	75 %	30

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	30 g	60 min	4.5 %
Boil	Zeus US	20 g	15 min	15.7 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safbrew T-58	Ale	Dry	11.5 g	Safbrew