

# Karmelowe Ale

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- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **21**
- SRM **7.6**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25 liter(s)**

## Steps

- Temp **63 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **15 min**

## Mash step by step

- Heat up **20 liter(s)** of strike water to **68.4C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **15 min** at **78C**
- Sparge using **11.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

| Type  | Name                  | Amount     | Yield | EBC |
|-------|-----------------------|------------|-------|-----|
| Grain | Viking Pale Ale malt  | 3 kg (60%) | 80 %  | 5   |
| Grain | Karmelowy Jasny 30EBC | 2 kg (40%) | 75 %  | 30  |

## Hops

| Use for | Name     | Amount | Time   | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil    | izabella | 50 g   | 30 min | 5.1 %      |

## Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 10.5 g | Fermentis  |

## Extras

| Type    | Name           | Amount | Use for | Time   |
|---------|----------------|--------|---------|--------|
| Finning | mech irlandzki | 5 g    | Boil    | 15 min |