

# Blachówkowy bitter

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **25**
- SRM **8.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **11 %/h**
- Boil size **29.3 liter(s)**

## Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **19.6 liter(s)**
- Total mash volume **24.5 liter(s)**

## Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **1 min**

## Mash step by step

- Heat up **19.6 liter(s)** of strike water to **72.9C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **29.3 liter(s)** of wort

## Fermentables

| Type  | Name                     | Amount         | Yield | EBC |
|-------|--------------------------|----------------|-------|-----|
| Grain | Mep@ale                  | 3.5 kg (71.4%) | 81 %  | 8.5 |
| Grain | Pszeniczny               | 0.5 kg (10.2%) | 85 %  | 4   |
| Grain | Karmelowy Jasny<br>30EBC | 0.3 kg (6.1%)  | 75 %  | 30  |
| Grain | Płatki owsiane           | 0.5 kg (10.2%) | 85 %  | 3   |
| Grain | Strzegom Karmel<br>600   | 0.1 kg (2%)    | 68 %  | 601 |

## Hops

| Use for    | Name      | Amount | Time   | Alpha acid |
|------------|-----------|--------|--------|------------|
| First Wort | Amarillo  | 20 g   | 60 min | 8.2 %      |
| Boil       | Hallertau | 30 g   | 15 min | 2 %        |
| Boil       | Hallertau | 30 g   | 10 min | 2 %        |
| Boil       | Hallertau | 30 g   | 5 min  | 2 %        |
| Whirlpool  | Hallertau | 30 g   | 30 min | 2 %        |

## Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

|             |     |     |      |        |
|-------------|-----|-----|------|--------|
| Safale S-04 | Ale | Dry | 11 g | Safale |
|-------------|-----|-----|------|--------|