

## Lager kombinowany

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **17**
- SRM **18**
- Style **American Brown Ale**

### Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **2 %**
- Size with trub loss **30.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **1 %/h**
- Boil size **31.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.7 liter(s)**
- Total mash volume **27.6 liter(s)**

### Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **20.7 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.7 liter(s)** of **76C** water or to achieve **31.5 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount         | Yield  | EBC  |
|-------|-----------------------------|----------------|--------|------|
| Grain | Strzegom Pilzneński         | 2.5 kg (36.2%) | 80 %   | 4    |
| Grain | Strzegom Monachijski typ I  | 2 kg (29%)     | 79 %   | 16   |
| Grain | Briess - Pale Ale Malt      | 1.8 kg (26.1%) | 80 %   | 7    |
| Grain | Melanoiden Malt             | 0.2 kg (2.9%)  | 80 %   | 39   |
| Grain | Special B Malt              | 0.2 kg (2.9%)  | 65.2 % | 315  |
| Grain | Strzegom Czekoladowy ciemny | 0.2 kg (2.9%)  | 68 %   | 1200 |

### Hops

| Use for | Name                  | Amount | Time   | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil    | Saaz (Czech Republic) | 20 g   | 60 min | 4.5 %      |
| Boil    | Hallertau Tradition   | 20 g   | 60 min | 5 %        |
| Boil    | East Kent Goldings    | 10 g   | 15 min | 5.1 %      |

### Yeasts

| Name                                  | Type  | Form | Amount | Laboratory      |
|---------------------------------------|-------|------|--------|-----------------|
| Mangrove Jack's<br>M84 Bohemian Lager | Lager | Dry  | 11 g   | Mangrove Jack's |