

Piwo Czekoladowe

- Gravity **14.7 BLG**
- ABV **6.1 %**
- IBU **21**
- SRM **21.1**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **4 %**
- Size with trub loss **23.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **23.6 liter(s)**
- Total mash volume **30.4 liter(s)**

Steps

- Temp **69 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **23.6 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **69C**
- Keep mash **10 min** at **76C**
- Sparge using **10.6 liter(s)** of **76C** water or to achieve **27.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|----------------|-------|------|
| Grain | Pale Ale | 5 kg (74.1%) | 80 % | 7 |
| Grain | Weyermann Caramunich 3 | 0.3 kg (4.4%) | 76 % | 150 |
| Grain | Brown | 0.25 kg (3.7%) | 75 % | 185 |
| Grain | Słód Chocolate | 0.2 kg (3%) | 70 % | 1200 |
| Grain | Płatki owsiane | 1 kg (14.8%) | 60 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|--------|------------|
| Boil | Willamette | 20 g | 60 min | 5.2 % |
| Aroma (end of boil) | Summit | 15 g | 15 min | 15.8 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|-------|--------|------------|
| Us-04 | Ale | Slant | 100 ml | --- |

Extras

| Type | Name | Amount | Use for | Time |
|-------|-------|--------|---------|--------|
| Spice | Cacao | 100 g | Boil | 10 min |

| | | | | |
|--------|------------------------------|------|-----------|-----------|
| Flavor | Esencja o smaku czekoladowym | 80 g | Secondary | 10 day(s) |
|--------|------------------------------|------|-----------|-----------|