

P18

- Gravity **12.6 BLG**
- ABV ---
- IBU **21**
- SRM **27.8**
- Style **Brown Porter**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **8.4 liter(s)**
- Total mash volume **11.2 liter(s)**

Steps

- Temp **68 C**, Time **70 min**
- Temp **72 C**, Time **10 min**

Mash step by step

- Heat up **8.4 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **70 min** at **68C**
- Keep mash **10 min** at **72C**
- Sparge using **9.6 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|----------------|--------|------|
| Grain | BESTMALZ - Bestt Pale Ale | 2 kg (71.4%) | 80.5 % | 6 |
| Grain | Fawcett - Brown | 0.3 kg (10.7%) | 72 % | 180 |
| Grain | Weyermann - Caraamber | 0.15 kg (5.4%) | 75 % | 65 |
| Grain | Fawcett - Pszeniczny Czekoladowy | 0.1 kg (3.6%) | 73 % | 1001 |
| Grain | Barley, Flaked | 0.25 kg (8.9%) | 70 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Willamette | 15 g | 60 min | 5 % |
| Boil | Willamette | 10 g | 20 min | 5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 10 g | Safale |

Extras

| Type | Name | Amount | Use for | Time |
|--------|-------|--------|---------|-------|
| Flavor | Kakao | 40 g | Boil | 7 min |