

Stout

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **26**
- SRM **33.2**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **21.6 liter(s)**

Steps

- Temp **53 C**, Time **10 min**
- Temp **68 C**, Time **80 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.2 liter(s)** of strike water to **58.5C**
- Add grains
- Keep mash **10 min** at **53C**
- Keep mash **80 min** at **68C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|----------------|--------|------|
| Grain | Weyermann - Pale Ale Malt | 3.5 kg (64.8%) | 85 % | 7 |
| Grain | Żytni | 0.5 kg (9.3%) | 85 % | 8 |
| Grain | Caramunich® typ I | 0.5 kg (9.3%) | 73 % | 80 |
| Grain | Karmelowy 400 | 0.3 kg (5.6%) | 72 % | 400 |
| Grain | Special B Malt | 0.2 kg (3.7%) | 65.2 % | 400 |
| Grain | Czekoladowy | 0.2 kg (3.7%) | 60 % | 800 |
| Grain | Strzegom Barwiący | 0.2 kg (3.7%) | 68 % | 1200 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|----------------|--------|--------|------------|
| Boil | Zeus/Collumbus | 10 g | 60 min | 14 % |
| Boil | Zeus/Collumbus | 20 g | 10 min | 15.1 % |
| Whirlpool | Zeus/Collumbus | 30 g | 0 min | 15.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|-------------|-------------|---------------|-------------------|
| Safale S-04 | Ale | Slant | 300 ml | --- |