

Stout

- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **83**
- SRM **23.8**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **23.1 liter(s)**
- Total mash volume **30.8 liter(s)**

Steps

- Temp **66 C**, Time **70 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **23.1 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **70 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **16.1 liter(s)** of **76C** water or to achieve **31.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 5 kg (64.9%) | 80 % | 4 |
| Grain | Caraaroma | 0.3 kg (3.9%) | 78 % | 400 |
| Grain | żytni czekoladowy | 0.6 kg (7.8%) | 65 % | 600 |
| Grain | Płatki owsiane | 1 kg (13%) | 85 % | 3 |
| Grain | płatki żytnie | 0.8 kg (10.4%) | 80 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|--------|------------|
| First Wort | lunga | 50 g | 90 min | 9.5 % |
| Boil | chinook PL | 50 g | 30 min | 9.1 % |
| Aroma (end of boil) | chinook PL | 50 g | 8 min | 9.1 % |
| Whirlpool | Cascade PL | 50 g | 0 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------|------|-------|--------|------------|
| Danstar - Nottingham | Ale | Slant | 200 ml | Danstar |