

Milk

- Gravity **15 BLG**
- ABV **6.2 %**
- IBU **32**
- SRM **39.6**
- Style **Sweet Stout**

Batch size

- Expected quantity of finished beer **42 liter(s)**
- Trub loss **5 %**
- Size with trub loss **44.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **53.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **38.3 liter(s)**
- Total mash volume **51 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **38.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **27.6 liter(s)** of **76C** water or to achieve **53.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (39.2%) | 80 % | 5.5 |
| Grain | Pszeniczny | 5 kg (39.2%) | 85 % | 4 |
| Grain | Czekoladowy | 1.4 kg (11%) | 60 % | 788 |
| Grain | Carafa II | 0.75 kg (5.9%) | 70 % | 812 |
| Grain | karmelowy 150 | 0.6 kg (4.7%) | --- % | 100 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|-------------------|--------|-----------|------------|
| Boil | iunga | 20 g | 60 min | 11 % |
| Boil | Herkules | 20 g | 60 min | 18 % |
| Boil | Sybilla | 30 g | 10 min | 6 % |
| Whirlpool | Lublin (Lubelski) | 30 g | 10 min | 4 % |
| Dry Hop | Lubelski | 40 g | 10 day(s) | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------------------------|------|------|--------|------------|
| bulldog b4 english ale | Ale | Dry | 20 g | --- |

Extras

| Type | Name | Amount | Use for | Time |
|--------|---------------------|--------|---------|--------|
| Flavor | laktoza | 1000 g | Boil | 15 min |
| Flavor | płatki błyskawiczne | 500 g | Mash | 60 min |
| Herb | mieta | 20 g | Boil | 10 min |