

esb

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **41**
- SRM **16.3**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **21.8 liter(s)**
- Total mash volume **28.4 liter(s)**

Steps

- Temp **67 C**, Time **30 min**
- Temp **72 C**, Time **30 min**

Mash step by step

- Heat up **21.8 liter(s)** of strike water to **74.1C**
- Add grains
- Keep mash **30 min** at **67C**
- Keep mash **30 min** at **72C**
- Sparge using **13.8 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|---------------|-------|-----|
| Grain | Strzegom Pale Ale | 5 kg (75.8%) | 79 % | 5 |
| Grain | Słód Brown Thomas Fawcett | 0.5 kg (7.6%) | 70 % | 200 |
| Grain | Słód Cookie Viking Malt | 0.5 kg (7.6%) | 72 % | 50 |
| Grain | Czekoladowy ciemny VM | 0.1 kg (1.5%) | 68 % | 900 |
| Grain | Słód Karmelowy 50EBC | 0.5 kg (7.6%) | 75 % | 50 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Zula | 30 g | 60 min | 7 % |
| Boil | Lublin (Lubelski) | 30 g | 60 min | 4 % |
| Boil | Lublin (Lubelski) | 40 g | 30 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11 g | Fermentis |