

ESB

- Gravity **14.3 BLG**
- ABV ---
- IBU **40**
- SRM **13.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **41 liter(s)**
- Trub loss **10 %**
- Size with trub loss **45.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **49.6 liter(s)**

Mash information

- Mash efficiency **95 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **22.5 liter(s)**
- Total mash volume **31.5 liter(s)**

Steps

- Temp **67 C**, Time **60 min**

Mash step by step

- Heat up **22.5 liter(s)** of strike water to **76.4C**
- Add grains
- Keep mash **60 min** at **67C**
- Sparge using **36.1 liter(s)** of **76C** water or to achieve **49.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|---------------|-------|-----|
| Grain | Strzegom Pale Ale Malt | 8 kg (88.9%) | 80 % | 7 |
| Grain | Fawcett - Crystal | 0.5 kg (5.6%) | 70 % | 160 |
| Grain | Fawcett - Crystal Rye | 0.5 kg (5.6%) | 73 % | 177 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Aroma (end of boil) | Fuggles | 50 g | 15 min | 4.5 % |
| Boil | Columbus/Tomahawk/Zeus | 40 g | 60 min | 14.5 % |
| Aroma (end of boil) | Fuggles | 25 g | 10 min | 4.5 % |
| Aroma (end of boil) | Fuggles | 25 g | 5 min | 4.5 % |

Yeasts

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