

Jacek

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **45**
- SRM **15.3**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.5 liter(s)**
- Total mash volume **14 liter(s)**

Steps

- Temp **65 C**, Time **60 min**

Mash step by step

- Heat up **10.5 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Sparge using **8.2 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński | 1.5 kg (42.9%) | 80 % | 4 |
| Grain | Strzegom Wiedeński | 1 kg (28.6%) | 79 % | 10 |
| Grain | Strzegom Karmel 150 | 0.5 kg (14.3%) | 75 % | 150 |
| Grain | Viking red ale | 0.5 kg (14.3%) | 75 % | 70 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | magnat | 13 g | 60 min | 11.5 % |
| Boil | Zythos | 10 g | 10 min | 9.2 % |
| Boil | Centennial | 10 g | 10 min | 9.4 % |
| Boil | Equinox | 10 g | 10 min | 13 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us-04 | Ale | Dry | 11 g | fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|--------|------|--------|---------|--------|
| Fining | mech | 5 g | Boil | 10 min |