

## valhalla

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **42**
- SRM **12.9**
- 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 **16.5 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.2 liter(s)**
- Total mash volume **13.6 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **77 C**, Time **10 min**

### Mash step by step

- Heat up **10.2 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **77C**
- Sparge using **9.7 liter(s)** of **76C** water or to achieve **16.5 liter(s)** of wort

### Fermentables

| Type  | Name                           | Amount         | Yield | EBC |
|-------|--------------------------------|----------------|-------|-----|
| Grain | Simpsons - Maris Otter         | 2.5 kg (73.5%) | 81 %  | 6   |
| Grain | Brown Malt (British Chocolate) | 0.5 kg (14.7%) | 70 %  | 180 |
| Grain | Platki owsiane                 | 0.4 kg (11.8%) | 60 %  | 3   |

### Hops

| Use for   | Name               | Amount | Time   | Alpha acid |
|-----------|--------------------|--------|--------|------------|
| Boil      | Styrian Golding    | 45 g   | 60 min | 3.6 %      |
| Boil      | East Kent Goldings | 10 g   | 30 min | 5.1 %      |
| Boil      | East Kent Goldings | 10 g   | 15 min | 5.1 %      |
| Whirlpool | East Kent Goldings | 15 g   | 30 min | 5.1 %      |

### Yeasts

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

### Extras

| Type | Name | Amount | Use for | Time |
|------|------|--------|---------|------|
|------|------|--------|---------|------|

|        |          |       |      |        |
|--------|----------|-------|------|--------|
| Fining | tabletki | 2.5 g | Boil | 10 min |
|--------|----------|-------|------|--------|