

## Szkockie eksportowe (Homebrewing)

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **15**
- SRM **11.9**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

### Steps

- Temp **65 C**, Time **20 min**
- Temp **72 C**, Time **40 min**
- Temp **76 C**, Time **5 min**

### Mash step by step

- Heat up **13.8 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **20 min** at **65C**
- Keep mash **40 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **16.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

### Fermentables

| Type  | Name                         | Amount        | Yield | EBC |
|-------|------------------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt         | 4 kg (87%)    | 80 %  | 5   |
| Grain | Karmelowy Czerwony 50 Viking | 0.3 kg (6.5%) | 75 %  | 50  |
| Grain | Cookie Viking                | 0.2 kg (4.3%) | 79 %  | 60  |
| Grain | Jęczmień palony              | 0.1 kg (2.2%) | 55 %  | 985 |

### Hops

| Use for | Name    | Amount | Time   | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil    | Fuggles | 30 g   | 60 min | 4.5 %      |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | ---        |

### Notes

- Jęczmień palony dodać po przerwie 72  
*Mar 10, 2023, 3:44 PM*