

xmas ale

- Gravity **16.1 BLG**
- ABV **6.8 %**
- IBU **36**
- SRM **26.7**
- Style **Old Ale**

Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **5 %**
- Size with trub loss **14.3 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **17.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **17.8 liter(s)**

Steps

- Temp **66 C**, Time **90 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **13.8 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **90 min** at **66C**
- Keep mash **10 min** at **75C**
- Sparge using **8.1 liter(s)** of **76C** water or to achieve **17.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|--------|-----|
| Grain | Briess - Pale Ale Malt | 3 kg (70.6%) | 80 % | 7 |
| Grain | Caramel/Crystal Malt - 40L | 0.2 kg (4.7%) | 74 % | 79 |
| Grain | Wheat, Flaked | 0.1 kg (2.4%) | 77 % | 4 |
| Grain | Special B Malt | 0.25 kg (5.9%) | 65.2 % | 315 |
| Grain | Chocolate Malt (UK) | 0.2 kg (4.7%) | 73 % | 887 |
| Sugar | Invert Sugar | 0.3 kg (7.1%) | 100 % | 0 |
| Grain | Simpsons - Crystal Rye | 0.2 kg (4.7%) | 73 % | 177 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil | East Kent Goldings | 25 g | 90 min | 5.1 % |
| Boil | East Kent Goldings | 25 g | 30 min | 5.1 % |
| Boil | East Kent Goldings | 10 g | 10 min | 5.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------|------|--------|--------|------------------|
| FM11 Wichrowe Wzgórza | Ale | Liquid | 500 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|-------|--------------------------|--------|---------|--------|
| Spice | cynamon | 4 g | Boil | 15 min |
| Spice | gałka m. | 3 g | Boil | 15 min |
| Spice | goździki | 8 g | Boil | 15 min |
| Spice | imbir | 3 g | Boil | 15 min |
| Spice | cukier waniliowy | 30 g | Boil | 15 min |
| Spice | przyprawa do piernika | 20 g | Boil | 15 min |
| Spice | ziele angielskie | 5 g | Boil | 15 min |