

EXTRA SPECIAL BITTER

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **34**
- SRM **12.7**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

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 **15 liter(s)**
- Total mash volume **20 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **75 C**, Time **10 min**
- Temp **80 C**, Time **10 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **75C**
- Keep mash **10 min** at **80C**
- Sparge using **15.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|-----------------|-------|-----|
| Grain | Viking malt pale ale | 4.5 kg (86.2%) | 80 % | 5 |
| Grain | Caramel/Crystal Malt - 120L | 0.28 kg (5.4%) | 72 % | 236 |
| Grain | Briess - Wheat Malt, White | 0.136 kg (2.6%) | 85 % | 5 |
| Grain | Chocolate Malt (UK) | 0.08 kg (1.5%) | 73 % | 887 |
| Sugar | GOLDEN SYRUP | 0.226 kg (4.3%) | --- % | --- |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-----------|--------|--------|------------|
| Boil | Northdown | 30 g | 60 min | 8.2 % |
| Aroma (end of boil) | Fuggles | 35 g | 10 min | 4.5 % |
| Whirlpool | Fuggles | 20 g | 10 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------------|------|--------|--------|------------|
| WLP002 - English Ale Yeast | Ale | Liquid | 20 ml | White Labs |

Extras

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|---------|--------|
| Fining | Mech irlandzki | 4 g | Boil | 10 min |