

Special Bitter

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **35**
- SRM **7.5**
- Style **Special/Best/Premium Bitter**

Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **11 %**
- Size with trub loss **14.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **18.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **5 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **20.1 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **15 min**

Mash step by step

- Heat up **16.8 liter(s)** of strike water to **71.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **15 min** at **72C**
- Sparge using **5.5 liter(s)** of **76C** water or to achieve **18.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------------------|----------------|--------|-----|
| Grain | Mep@Ale | 2.9 kg (86.6%) | 80 % | 6 |
| Grain | Mep@Wheat | 0.15 kg (4.5%) | 84.7 % | 4 |
| Grain | Viking Pale Cookie (bursztynowy) | 0.1 kg (3%) | 72 % | 25 |
| Grain | Castlemalting Cara Crystal 150 EBC | 0.2 kg (6%) | 74 % | 150 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|--------|------------|
| Boil | Fuggles | 30 g | 60 min | 5.3 % |
| Boil | Fuggles | 30 g | 10 min | 5.3 % |
| Aroma (end of boil) | Fuggles | 40 g | 0 min | 5.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|---------------------------------|------|-------|--------|------------|
| WLP051 - California Ale V Yeast | Ale | Slant | 100 ml | White Labs |