

Bitter

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **30**
- SRM **8.1**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **27 liter(s)**
- Trub loss **5 %**
- Size with trub loss **28.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **32.7 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.2 liter(s)**
- Total mash volume **22.9 liter(s)**

Steps

- Temp **55 C**, Time **1 min**
- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **17.2 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **1 min** at **55C**
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **21.2 liter(s)** of **76C** water or to achieve **32.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 5 kg (87.3%) | 85 % | 6 |
| Grain | Weyermann pszeniczny jasny | 0.2 kg (3.5%) | 80 % | 4 |
| Grain | Caramunich® typ I | 0.5 kg (8.7%) | 73 % | 90 |
| Grain | Weyermann - Carafa I | 0.03 kg (0.5%) | 70 % | 900 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------------------|--------|----------|------------|
| Boil | Challenger | 30 g | 70 min | 5.8 % |
| Boil | East Kent Goldings | 30 g | 30 min | 5.4 % |
| Boil | East Kent Goldings | 15 g | 15 min | 5.4 % |
| Dry Hop | Challenger | 20 g | 7 day(s) | 5.8 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

| | | | | |
|-------------|-----|-----|------|--------|
| Safale S-04 | Ale | Dry | 11 g | Safale |
|-------------|-----|-----|------|--------|