

Special Bitter

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **34**
- SRM **10.9**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **27.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.7 liter(s) / kg**
- Mash size **22.2 liter(s)**
- Total mash volume **28.2 liter(s)**

Steps

- Temp **67 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **22.2 liter(s)** of strike water to **73.4C**
- Add grains
- Keep mash **50 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11.7 liter(s)** of **76C** water or to achieve **27.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|---------------|-------|-----|
| Grain | Simpsons - Maris Otter | 4 kg (66.7%) | 81 % | 6 |
| Grain | Monachijski | 0.5 kg (8.3%) | 80 % | 16 |
| Grain | Fawcett - Brown | 0.5 kg (8.3%) | 72 % | 180 |
| Grain | Melanoiden Malt | 0.5 kg (8.3%) | 80 % | 39 |
| Grain | tostowy | 0.5 kg (8.3%) | 80 % | 10 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|--------------------|--------|--------|------------|
| Boil | Marynka | 15 g | 60 min | 10 % |
| Boil | Golding | 25 g | 60 min | 5 % |
| Boil | Golding | 25 g | 20 min | 5 % |
| Whirlpool | East Kent Goldings | 30 g | 0 min | 5.1 % |
| Whirlpool | Fuggles | 30 g | 0 min | 4.5 % |

Yeasts

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

| | | | | |
|-----------------------------------|-----|--------|---------|--------|
| wyeast 1469 west Yorkshire ale | Ale | Liquid | 1000 ml | wyeast |
| starter drożdżowy | | | | |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|----------|--------|---------|--------|
| Water Agent | gips | 5 g | Boil | 10 min |
| Fining | wirflook | 10 g | Boil | 15 min |