

bitter

- Gravity **9 BLG**
- ABV **3.5 %**
- IBU **35**
- SRM **8**
- Style **Special/Best/Premium Bitter**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **10 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **5 min**
- Evaporation rate **10 %/h**
- Boil size **30.3 liter(s)**

Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **2 liter(s) / kg**
- Mash size **8 liter(s)**
- Total mash volume **12.1 liter(s)**

Steps

- Temp **64 C**, Time **60 min**

Mash step by step

- Heat up **8 liter(s)** of strike water to **75.1C**
- Add grains
- Keep mash **60 min** at **64C**
- Sparge using **26.3 liter(s)** of **76C** water or to achieve **30.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------|----------------|-------|-----|
| Grain | Strzegom Pale Ale | 3 kg (74.6%) | 79 % | 6 |
| Grain | Strzegom Pszeniczny | 0.5 kg (12.4%) | 81 % | 6 |
| Grain | Strzegom Karmel 600 | 0.12 kg (3%) | 68 % | 601 |
| Grain | Viking cookie | 0.2 kg (5%) | 60 % | 50 |
| Grain | strzegom caramel pale | 0.2 kg (5%) | 60 % | 8 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|--------------------|--------|--------|------------|
| Boil | Magnum | 20 g | 60 min | 13.5 % |
| Aroma (end of boil) | Fuggles | 15 g | 15 min | 4.5 % |
| Aroma (end of boil) | Marynka | 10 g | 15 min | 7 % |
| Aroma (end of boil) | East Kent Goldings | 15 g | 5 min | 5.1 % |
| Aroma (end of boil) | Fuggles | 10 g | 5 min | 4.5 % |
| Aroma (end of boil) | Marynka | 25 g | 0 min | 7 % |
| Aroma (end of boil) | East Kent Goldings | 10 g | 0 min | 5.1 % |

Yeasts

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

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