

BITTER BULLDOG v4

- Gravity **13.6 BLG**
- ABV ---
- IBU **32**
- SRM **5.6**
- Style **Special/Best/Premium Bitter**

Batch size

- Expected quantity of finished beer **26 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **32.9 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **20.5 liter(s)**
- Total mash volume **26.7 liter(s)**

Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **3 min**

Mash step by step

- Heat up **20.5 liter(s)** of strike water to **70.7C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **3 min** at **78C**
- Sparge using **18.6 liter(s)** of **76C** water or to achieve **32.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|---------------|-------|-----|
| Grain | Strzegom Pilzneński | 4 kg (64.5%) | 80 % | 4 |
| Grain | Strzegom Pszeniczny | 1 kg (16.1%) | 81 % | 6 |
| Grain | Strzegom Karmel 150 | 0.2 kg (3.2%) | 75 % | 150 |
| Grain | Viking Pale Ale malt | 1 kg (16.1%) | 80 % | 5 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|--------------------|--------|--------|------------|
| Boil | Magnum | 15 g | 60 min | 13.5 % |
| Boil | East Kent Goldings | 15 g | 60 min | 5.1 % |
| Boil | East Kent Goldings | 20 g | 40 min | 5.1 % |
| Boil | East Kent Goldings | 15 g | 10 min | 5.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------------|------|-------|--------|------------------|
| FM10 O czym szumią wierzby | Ale | Slant | 150 ml | Fermentum Mobile |