

# BITTER BULLDOG v4

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- 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<br>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 |