

# Special Bitter

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **45**
- SRM **6.1**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

## Steps

- Temp **67 C**, Time **70 min**
- Temp **76 C**, Time **1 min**

## Mash step by step

- Heat up **19.3 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **70 min** at **67C**
- Keep mash **1 min** at **76C**
- Sparge using **17.9 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount         | Yield  | EBC |
|-------|-----------------------------|----------------|--------|-----|
| Grain | Pilzneński                  | 4.2 kg (76.4%) | 81 %   | 4   |
| Grain | Strzegom Karmel 150         | 0.2 kg (3.6%)  | 75 %   | 150 |
| Grain | Strzegom Monachijski typ I  | 0.3 kg (5.5%)  | 79 %   | 16  |
| Grain | Strzegom Monachijski typ II | 0.5 kg (9.1%)  | 79 %   | 22  |
| Grain | Rye, Flaked                 | 0.3 kg (5.5%)  | 78.3 % | 4   |

## Hops

| Use for             | Name              | Amount | Time   | Alpha acid |
|---------------------|-------------------|--------|--------|------------|
| Boil                | Fuggles           | 15 g   | 60 min | 6.1 %      |
| Boil                | lunga             | 10 g   | 60 min | 11 %       |
| Boil                | Lublin (Lubelski) | 20 g   | 60 min | 3.8 %      |
| Aroma (end of boil) | Fuggles           | 15 g   | 15 min | 6.1 %      |
| Aroma (end of boil) | lunga             | 20 g   | 15 min | 11 %       |
| Whirlpool           | Fuggles           | 20 g   | 10 min | 6.1 %      |
| Whirlpool           | Lublin (Lubelski) | 30 g   | 10 min | 4 %        |
| Whirlpool           | lunga             | 20 g   | 10 min | 11 %       |

## Yeasts

| Name                       | Type | Form   | Amount | Laboratory       |
|----------------------------|------|--------|--------|------------------|
| FM10 O czym szumią wierzby | Ale  | Liquid | 30 ml  | Fermentum Mobile |
| Starter                    |      |        |        |                  |