

Bitter -> Better

- Gravity **13.1 BLG**
- ABV ---
- IBU **44**
- SRM **11**
- Style **Special/Best/Premium Bitter**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **27.1 liter(s)**

Mash information

- Mash efficiency **66 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.9 liter(s)**
- Total mash volume **25.6 liter(s)**

Steps

- Temp **64 C**, Time **40 min**
- Temp **74 C**, Time **20 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **19.9 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **74C**
- Keep mash **5 min** at **76C**
- Sparge using **12.9 liter(s)** of **76C** water or to achieve **27.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|---------------|-------|-----|
| Grain | Weyermann - Pale Ale Malt | 5 kg (87.7%) | 85 % | 7 |
| Grain | Strzegom Karmel 30 | 0.3 kg (5.3%) | 75 % | 30 |
| Grain | Strzegom Karmel 150 | 0.2 kg (3.5%) | 75 % | 150 |
| Grain | Strzegom Bursztynowy | 0.2 kg (3.5%) | 70 % | 49 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|------------|--------------------|--------|--------|------------|
| First Wort | Marynka | 30 g | 70 min | 10 % |
| Boil | East Kent Goldings | 15 g | 30 min | 5.1 % |
| Boil | Lublin (Lubelski) | 15 g | 15 min | 4 % |
| Boil | East Kent Goldings | 15 g | 5 min | 5.1 % |
| Whirlpool | East Kent Goldings | 30 g | 0 min | 5.1 % |

Yeasts

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

| | | | | |
|-------------|-----|-----|--------|-----|
| Safale S-04 | Ale | Dry | 11.5 g | --- |
|-------------|-----|-----|--------|-----|