

Bitter

- Gravity **11.7 BLG**
- ABV ---
- IBU **45**
- SRM **13**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12.4 liter(s)**
- Total mash volume **16.5 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **12.4 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **10 min** at **76C**
- Sparge using **20.7 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|---------|------------------------|----------------|-------|-----|
| Grain | Strzegom Pale Ale | 3.5 kg (77.3%) | --- % | --- |
| Adjunct | Briess - Barley Flakes | 0.4 kg (8.8%) | 70 % | 3 |
| Grain | Biscuit Malt | 0.15 kg (3.3%) | 79 % | 45 |
| Grain | Strzegom Karmel 150 | 0.15 kg (3.3%) | 75 % | 150 |
| Grain | Strzegom Karmel 300 | 0.15 kg (3.3%) | 70 % | 299 |
| Grain | Weyermann - Carared | 0.15 kg (3.3%) | 75 % | 45 |
| Grain | Jęczmień palony | 0.03 kg (0.7%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | First Gold | 30 g | 60 min | 7.5 % |
| Boil | Sybilla | 20 g | 60 min | 5 % |
| Boil | First Gold | 20 g | 10 min | 7.5 % |
| Boil | Sybilla | 20 g | 10 min | 3.5 % |
| Boil | First Gold | 20 g | 1 min | 7.5 % |
| Boil | Sybilla | 20 g | 1 min | 3.5 % |

| | | | | |
|---------|------------|------|----------|-------|
| Dry Hop | First Gold | 20 g | 7 day(s) | 7.5 % |
| Dry Hop | Sybilla | 20 g | 7 day(s) | 3.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------|------|------|--------|------------|
| Danstar - Nottingham | Ale | Dry | 11 g | Danstar |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|-----------------|--------|---------|--------|
| Fining | mech irlandzki | 5 g | Boil | 10 min |
| Water Agent | gips piwowarski | 5 g | Mash | --- |