

żyto II

- Gravity **18.4 BLG**
- ABV **8 %**
- IBU **41**
- SRM **45**
- Style **Foreign Extra Stout**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **28.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **20.6 liter(s)**
- Total mash volume **28.9 liter(s)**

Steps

- Temp **45 C**, Time **10 min**
- Temp **52 C**, Time **10 min**
- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **20.6 liter(s)** of strike water to **50C**
- Add grains
- Keep mash **10 min** at **45C**
- Keep mash **10 min** at **52C**
- Keep mash **60 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **15 min** at **78C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **28.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt | 1.5 kg (18.2%) | 80 % | 5 |
| Grain | Strzegom Wiedeński | 1 kg (12.1%) | 79 % | 10 |
| Grain | Żytmi | 3 kg (36.4%) | 85 % | 8 |
| Grain | Pszeniczny | 0.5 kg (6.1%) | 85 % | 4 |
| Grain | Caraaroma | 0.4 kg (4.8%) | 78 % | 350 |
| Grain | Strzegom Czekoladowy jasny | 0.4 kg (4.8%) | 68 % | 400 |
| Grain | Barley, Flaked | 0.4 kg (4.8%) | 70 % | 4 |
| Grain | Coffee light | 0.25 kg (3%) | --- % | 250 |
| Grain | Carafa | 0.2 kg (2.4%) | 70 % | 664 |
| Grain | Carafa III | 0.2 kg (2.4%) | 70 % | 1034 |
| Grain | Strzegom pszenica prażona | 0.2 kg (2.4%) | 70 % | 1000 |
| Grain | Jęczmień palony | 0.2 kg (2.4%) | 55 % | 1000 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|----------------|--------------------|---------------|-------------|-------------------|
| Boil | Challenger | 28 g | 60 min | 5.8 % |
| Boil | Fuggles | 30 g | 60 min | 4.5 % |
| Boil | Fuggles | 30 g | 15 min | 4.5 % |
| Boil | Fuggles | 17 g | 5 min | 4.5 % |
| Boil | East Kent Goldings | 12 g | 5 min | 5.1 % |
| Boil | Sladek | 22 g | 60 min | 5.5 % |