

Stout żytni

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **40**
- SRM **17.6**
- Style **Dry Stout**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **8.4 liter(s)**
- Total mash volume **11.2 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **8.4 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **9.6 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------------|-----------------|-------|------|
| Grain | Pilzneńsk Weyerman | 1 kg (35.7%) | 81 % | 4 |
| Grain | Żytni | 1 kg (35.7%) | 85 % | 8 |
| Grain | Strzegom Karmel 150 | 0.4 kg (14.3%) | 75 % | 150 |
| Grain | Jęczmień palony | 0.045 kg (1.6%) | 55 % | 985 |
| Grain | Pszeniczny | 0.32 kg (11.4%) | 85 % | 1 |
| Grain | Strzegom pszenica prażona | 0.04 kg (1.4%) | 70 % | 1000 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Marynka | 15 g | 60 min | 6.8 % |
| Boil | Oktawia | 15 g | 30 min | 8.7 % |
| Boil | Cascade | 10 g | 5 min | 5.5 % |

Yeasts

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

| | | | | |
|--------------------------|-----|--------|--------|------------------|
| FM11 Wichrowe Wzgórza | Ale | Liquid | 150 ml | Fermentum Mobile |
|--------------------------|-----|--------|--------|------------------|