

# Ciemne żytnio-pszeniczne

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **24**
- SRM **20.6**
- Style **Dunkelweizen**

## Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **7 %**
- Size with trub loss **17.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **20.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.5 liter(s)**
- Total mash volume **18 liter(s)**

## Steps

- Temp **44 C**, Time **20 min**
- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **79 C**, Time **5 min**

## Mash step by step

- Heat up **13.5 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **20 min** at **44C**
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **79C**
- Sparge using **11.6 liter(s)** of **76C** water or to achieve **20.6 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount         | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Żytni                       | 2 kg (44.4%)   | 85 %  | 8   |
| Grain | Pszeniczny                  | 1 kg (22.2%)   | 85 %  | 4   |
| Grain | Strzegom Monachijski typ II | 1 kg (22.2%)   | 79 %  | 22  |
| Grain | Pilzneński                  | 0.25 kg (5.6%) | 81 %  | 4   |
| Grain | Viking Czekoladowy ciemny   | 0.25 kg (5.6%) | 67 %  | 900 |

## Hops

| Use for | Name                | Amount | Time   | Alpha acid |
|---------|---------------------|--------|--------|------------|
| Boil    | Hallertau Tradition | 10 g   | 60 min | 5 %        |
| Boil    | Cascade PL          | 15 g   | 60 min | 7 %        |
| Boil    | Cascade PL          | 10 g   | 15 min | 7 %        |

## Yeasts

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

|                        |       |       |        |                  |
|------------------------|-------|-------|--------|------------------|
| FM41 Gwoździe i Banany | Wheat | Slant | 500 ml | Fermentum Mobile |
|------------------------|-------|-------|--------|------------------|

### Extras

| Type  | Name    | Amount | Use for  | Time |
|-------|---------|--------|----------|------|
| Other | Glukoza | 150 g  | Bottling | ---  |