

# Śląskie pełne

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **13**
- SRM **4.7**
- Style **Specialty Beer**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **12.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **10 liter(s)**
- Total mash volume **12.5 liter(s)**

## Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **10 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **5.2 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

## Fermentables

| Type  | Name                  | Amount       | Yield | EBC |
|-------|-----------------------|--------------|-------|-----|
| Grain | Żytni                 | 1.5 kg (60%) | 85 %  | 8   |
| Grain | Weyermann - Grodziski | 1 kg (40%)   | 80 %  | 4   |

## Hops

| Use for | Name  | Amount | Time   | Alpha acid |
|---------|-------|--------|--------|------------|
| Boil    | lunga | 3 g    | 60 min | 11.5 %     |
| Boil    | lunga | 3 g    | 15 min | 11.5 %     |
| Boil    | lunga | 3 g    | 5 min  | 11.5 %     |

## Yeasts

| Name          | Type | Form | Amount | Laboratory |
|---------------|------|------|--------|------------|
| Lutra OYL-071 | Ale  | Dry  | 10 g   | Omega      |

## Extras

| Type  | Name      | Amount | Use for | Time   |
|-------|-----------|--------|---------|--------|
| Spice | majeranek | 10 g   | Boil    | 15 min |
| Spice | majeranek | 8 g    | Boil    | 5 min  |

|       |                  |     |           |          |
|-------|------------------|-----|-----------|----------|
| Spice | ziele angielskie | 2 g | Secondary | 1 day(s) |
| Spice | liść laurowy     | 2 g | Secondary | 1 day(s) |

## Notes

- Dodatek kwasu mlekowego 1,2ml/litr.  
Nagazowanie 1.6 vol

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