

Esb ciemno-złoty, PaleLager

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **25**
- SRM **6.3**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **52 liter(s)**
- Trub loss **5 %**
- Size with trub loss **54.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **65.8 liter(s)**

Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **30 liter(s)**
- Total mash volume **42 liter(s)**

Steps

- Temp **66 C**, Time **50 min**
- Temp **74 C**, Time **20 min**

Mash step by step

- Heat up **30 liter(s)** of strike water to **75.2C**
- Add grains
- Keep mash **50 min** at **66C**
- Keep mash **20 min** at **74C**
- Sparge using **47.8 liter(s)** of **76C** water or to achieve **65.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|---------------|-------|-----|
| Grain | Simpsons - Maris Otter | 11 kg (89.4%) | 85 % | 6 |
| Grain | Strzegom Karmel 150 | 0.5 kg (4.1%) | 75 % | 120 |
| Grain | Caramel/Crystal Malt - 10L | 0.5 kg (4.1%) | 75 % | 20 |
| Sugar | Cukier | 0.3 kg (2.4%) | 100 % | 1 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|-----------------------|--------|--------|------------|
| Boil | Magn | 35 g | 60 min | 11 % |
| Boil | Lublin (Lubelski) | 35 g | 20 min | 4.5 % |
| Whirlpool | Lublin (Lubelski) | 44 g | 40 min | 4.5 % |
| Whirlpool | Saaz (Czech Republic) | 20 g | 40 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------------------|------|--------|--------|------------|
| WLP004 - Irish Ale Yeast | Ale | Liquid | 40 ml | White Labs |

Trochę mało drożdży. 26L brzezki SG 1.047. Pozostałe 27 L SG 1.049 to Lager na gęstwie S 189 (150 ml)

Extras

| Type | Name | Amount | Use for | Time |
|-------------|--------------|--------|---------|----------|
| Water Agent | Kwas mlekowy | 4 g | Mash | 5 min |
| Other | Odżywka | 5 g | Primary | 7 day(s) |

Notes

- Brzezka podzielona na:
 - 1) 26 litrów SG 1047 Esb WLP004 underpitching temp 14*
 - 2) 27 litrów lager SG 1049 S189 gestwa 300ml

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