

Ciemne Kujawskie

- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **50**
- SRM **36.7**
- Style **Brown Porter**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **19 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **14.5 liter(s)**
- Total mash volume **18.9 liter(s)**

Steps

- Temp **63 C**, Time **30 min**
- Temp **73 C**, Time **90 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **14.5 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **90 min** at **73C**
- Keep mash **10 min** at **78C**
- Sparge using **8.9 liter(s)** of **76C** water or to achieve **19 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	1 kg (22.7%)	80 %	6
Grain	Strzegom Wiedeński	1 kg (22.7%)	79 %	9
Grain	Płatki owsiane	1 kg (22.7%)	60 %	4
Grain	Strzegom Karmel 150	0.5 kg (11.4%)	75 %	150
Grain	Cara Blonde - Castle Malting	0.5 kg (11.4%)	78 %	20
Grain	Carafa III	0.2 kg (4.5%)	65 %	1400
Grain	Chocolate Malt (UK)	0.2 kg (4.5%)	75 %	1000

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	8.8 %
Boil	Sybilla	25 g	15 min	6 %
Aroma (end of boil)	Lublin (Lubelski)	25 g	70 min	4 %
Boil	Liberty	15 g	10 min	5 %

Yeasts

Name	Type	Form	Amount	Laboratory
US-05	Ale	Slant	230 ml	Fermentis

Extras

Type	Name	Amount	Use for	Time
Flavor	Rodzynki	250 g	Boil	15 min