

Świąteczne

- Gravity **16.6 BLG**
- ABV **7 %**
- IBU **31**
- SRM **36.6**

Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **5 %**
- Size with trub loss **16.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **20.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **16.2 liter(s)**
- Total mash volume **20.3 liter(s)**

Steps

- Temp **66 C**, Time **70 min**
- Temp **76 C**, Time **0 min**

Mash step by step

- Heat up **16.2 liter(s)** of strike water to **71.9C**
- Add grains
- Keep mash **70 min** at **66C**
- Keep mash **0 min** at **76C**
- Sparge using **8.2 liter(s)** of **76C** water or to achieve **20.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	2.6 kg (50.8%)	80 %	7
Grain	Strzegom Karmel 150	0.35 kg (6.8%)	75 %	150
Grain	Fawcett - Chocolate	0.175 kg (3.4%)	71 %	1100
Grain	Carafa Specjal III	0.175 kg (3.4%)	70 %	1200
Grain	Weyermann® - Pszeniczny Czekoladowy	0.14 kg (2.7%)	73 %	800
Grain	Strzegom Monachijski typ I	0.44 kg (8.6%)	79 %	16
Grain	Weyermann Monachijski typ II	0.1 kg (2%)	79 %	22
Grain	Strzegom Pszeniczny	0.175 kg (3.4%)	81 %	6
Sugar	Milk Sugar (Lactose)	0.4 kg (7.8%)	76.1 %	0
Liquid Extract	Miód Gryczany (Buckwheat Honey)	0.56 kg (10.9%)	70 %	40

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	30 g	60 min	8.7 %

Yeasts

Name	Type	Form	Amount	Laboratory
us-05	Ale	Dry	11.5 g	---

Extras

Type	Name	Amount	Use for	Time
Spice	goździki	3 g	Boil	10 min
Spice	cynamon	10 g	Boil	10 min
Spice	kardamon	5 g	Boil	10 min
Spice	skórka z pomarańczy 3 szt.	0 g	Boil	10 min