Ciasteczkowe

- Gravity **15.7 BLG**
- ABV **6.6 %**
- IBU **24**
- SRM **10**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **8 %/h**
- Boil size **24.8 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **14.8 liter(s)**
- Total mash volume **20.6 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **14.8 liter(s)** of strike water to **77.6C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **15 min** at **72C**
- Keep mash **15 min** at **78C**
- Sparge using **15.9 liter(s)** of **76C** water or to achieve **24.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2 kg *(33.9%)*	80 %	5
Grain	Golden Ale	2 kg *(33.9%)*	80 %	12
Grain	Słód pszeniczny Bestmalz	1.5 kg *(25.4%)*	82 %	5
Grain	Special B Malt	0.2 kg *(3.4%)*	65.2 %	315
Grain	Carahell	0.2 kg *(3.4%)*	77 %	26

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Nacionalniy	50 g	20 min	8 %

Yeasts

Name	Type	Form	Amount	Laboratory
WLP545 - Belgian Strong Ale Yeast	Ale	Liquid	40 ml	White Labs
Starter 1L 10 blg				

Extras

Type	Name	Amount	Use for	Time
Spice	Przyprawa Speculus	36 g	Boil	15 min
19g mielonego cynamonu 6g goździków (najlepiej mielonych) 3g drobno mielony czarny pieprz 3g mielonego imbiru 3g mielonej gałki muszkatołowej 2g mielonego kardamonu				