

Special Bitter

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **45**
- SRM **6.1**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **19.3 liter(s)**
- Total mash volume **24.8 liter(s)**

Steps

- Temp **67 C**, Time **70 min**
- Temp **76 C**, Time **1 min**

Mash step by step

- Heat up **19.3 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **70 min** at **67C**
- Keep mash **1 min** at **76C**
- Sparge using **17.9 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	4.2 kg (76.4%)	81 %	4
Grain	Strzegom Karmel 150	0.2 kg (3.6%)	75 %	150
Grain	Strzegom Monachijski typ I	0.3 kg (5.5%)	79 %	16
Grain	Strzegom Monachijski typ II	0.5 kg (9.1%)	79 %	22
Grain	Rye, Flaked	0.3 kg (5.5%)	78.3 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	15 g	60 min	6.1 %
Boil	lunga	10 g	60 min	11 %
Boil	Lublin (Lubelski)	20 g	60 min	3.8 %
Aroma (end of boil)	Fuggles	15 g	15 min	6.1 %
Aroma (end of boil)	lunga	20 g	15 min	11 %
Whirlpool	Fuggles	20 g	10 min	6.1 %
Whirlpool	Lublin (Lubelski)	30 g	10 min	4 %
Whirlpool	lunga	20 g	10 min	11 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM10 O czym szumią wierzby	Ale	Liquid	30 ml	Fermentum Mobile
Starter				