

tenshi1

- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **54**
- SRM **29**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **34.5 liter(s)**

Mash information

- Mash efficiency **82 %**
- Liquor-to-grist ratio **2.3 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **28.7 liter(s)**

Steps

- Temp **62 C**, Time **10 min**
- Temp **68 C**, Time **20 min**
- Temp **70 C**, Time **30 min**
- Temp **72 C**, Time **5 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **71.1C**
- Add grains
- Keep mash **10 min** at **62C**
- Keep mash **20 min** at **68C**
- Keep mash **30 min** at **70C**
- Keep mash **5 min** at **72C**
- Sparge using **23.2 liter(s)** of **76C** water or to achieve **34.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3.5 kg (40.2%)	79 %	6
Grain	Strzegom Monachijski typ II	2 kg (23%)	79 %	22
Grain	Strzegom Pilzneński	2 kg (23%)	80 %	4
Grain	Strzegom Karmel 150	0.8 kg (9.2%)	75 %	150
Grain	Strzegom Barwiący	0.4 kg (4.6%)	68 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Pacific Gem	15 g	60 min	15.3 %
Boil	Pacific Gem	25 g	45 min	15.3 %
Boil	Nelson Sauvin	15 g	25 min	11 %
Boil	Nelson Sauvin	20 g	10 min	11 %
Whirlpool	Nelson Sauvin	10 g	0 min	11 %
Dry Hop	Pacific Gem	10 g	---	15.3 %
Dry Hop	Nelson Sauvin	10 g	---	11 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M03 UK Dark Ale	Ale	Dry	12 g	Mangrove Jack's