

Mass Effect

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **36**
- SRM **4.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **26 liter(s)**
- Trub loss **10 %**
- Size with trub loss **31.2 liter(s)**
- Boil time **120 min**
- Evaporation rate **10 %/h**
- Boil size **42.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **28 liter(s)**

Steps

- Temp **51 C**, Time **30 min**
- Temp **63 C**, Time **30 min**
- Temp **73 C**, Time **30 min**
- Temp **77 C**, Time **15 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **57.2C**
- Add grains
- Keep mash **30 min** at **51C**
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **73C**
- Keep mash **15 min** at **77C**
- Sparge using **30.1 liter(s)** of **76C** water or to achieve **42.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	5 kg (62.5%)	80 %	4
Grain	Płatki owsiane	2 kg (25%)	60 %	3
Grain	Monachijski	1 kg (12.5%)	80 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	5 g	30 min	12 %
Whirlpool	Citra	5 g	60 min	12 %
Dry Hop	Citra	50 g	5 day(s)	12 %
Boil	Simcoe	5 g	30 min	13.2 %
Whirlpool	Simcoe	5 g	60 min	13.2 %
Dry Hop	Simcoe	50 g	5 day(s)	13.2 %
Boil	Amarillo	5 g	30 min	9.5 %
Aroma (end of boil)	Amarillo	5 g	60 min	9.5 %
Boil	Columbus/Tomahawk/Zeus	5 g	30 min	15.5 %
Aroma (end of boil)	Columbus/Tomahawk/Zeus	5 g	30 min	15.5 %

Whirlpool	Columbus/Tomahawk/Zeus	5 g	60 min	15.5 %
Dry Hop	Columbus/Tomahawk/Zeus	85 g	5 day(s)	15.5 %
Boil	Magnum	5 g	15 min	13.5 %
Aroma (end of boil)	Magnum	5 g	10 min	13.5 %
Whirlpool	Magnum	5 g	60 min	13.5 %
Dry Hop	Magnum	85 g	5 day(s)	13.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	23 g	Fermentis