

Fear Factory

- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **33**
- SRM **9.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **65 min**
- Evaporation rate **8 %/h**
- Boil size **29.2 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18.3 liter(s)**
- Total mash volume **24.4 liter(s)**

Steps

- Temp **68 C**, Time **90 min**
- Temp **78 C**, Time **15 min**

Mash step by step

- Heat up **18.3 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **90 min** at **68C**
- Keep mash **15 min** at **78C**
- Sparge using **17 liter(s)** of **76C** water or to achieve **29.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	1 kg (16.4%)	81 %	6
Grain	Weyermann - Pilsner Malt	2.5 kg (41%)	81 %	5
Grain	Płatki jęczmienne	0.6 kg (9.8%)	85 %	3
Grain	Aromatic Malt	1 kg (16.4%)	78 %	60
Grain	Simpsons - Caramalt	1 kg (16.4%)	76 %	38

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Nugget	20 g	60 min	12.2 %
Aroma (end of boil)	Nugget	20 g	10 min	12.2 %
Aroma (end of boil)	Sybilla	20 g	10 min	4.5 %
Dry Hop	Chinook	25 g	2 day(s)	12.4 %
Dry Hop	Aromat chmielowy Citra	2 g	1 day(s)	1 %

Yeasts

Name	Type	Form	Amount	Laboratory
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Mangrove Jack's M44 US West Coast	Ale	Slant	120 ml	---
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Extras

Type	Name	Amount	Use for	Time
Fining	protafloc	1 g	Boil	15 min