

**xd**

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **40**
- SRM **5.3**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **25.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **31.4 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.3 liter(s)**
- Total mash volume **19 liter(s)**

### Steps

- Temp **58 C**, Time **10 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **14.3 liter(s)** of strike water to **64.3C**
- Add grains
- Keep mash **10 min** at **58C**
- Keep mash **30 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **21.9 liter(s)** of **76C** water or to achieve **31.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Vienna Malt	1 kg (21.1%)	81 %	8
Grain	Weyermann - Pale Ale Malt	2.5 kg (52.6%)	85 %	7
Grain	Weyermann - Pale Wheat Malt	1 kg (21.1%)	85 %	5
Grain	Weyermann - Melanoiden Malt	0.25 kg (5.3%)	81 %	70

### Hops

Use for	Name	Amount	Time	Alpha acid
Aroma (end of boil)	Enigma (AUS)	15 g	20 min	17.2 %
Aroma (end of boil)	Enigma (AUS)	15 g	12 min	17.2 %
Aroma (end of boil)	Enigma (AUS)	20 g	7 min	17.2 %
Aroma (end of boil)	Enigma (AUS)	25 g	3 min	17.2 %
Aroma (end of boil)	Enigma (AUS)	25 g	0 min	17.2 %

### Yeasts

<b>Name</b>	<b>Type</b>	<b>Form</b>	<b>Amount</b>	<b>Laboratory</b>
Mangrove Jack's M44 US West Coast	Ale	Dry	10 g	Mangrove Jack's

### **Extras**

<b>Type</b>	<b>Name</b>	<b>Amount</b>	<b>Use for</b>	<b>Time</b>
Fining	Mech irlandzki	5 g	Boil	10 min