

89 JAG

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **47**
- SRM **4.7**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **25.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **77 C**, Time **5 min**

Mash step by step

- Heat up **13.8 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **77C**
- Sparge using **16 liter(s)** of **76C** water or to achieve **25.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	3.9 kg (70.9%)	80 %	7
Grain	Briess - Wheat Malt, Red	0.7 kg (12.7%)	81 %	5
Sugar	jaggery	0.9 kg (16.4%)	--- %	---

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Northdown	65 g	90 min	5 %
Boil	East Kent Goldings	110 g	5 min	5.1 %

Extras

Type	Name	Amount	Use for	Time
Spice	kozieradka	3 g	Boil	5 min

Notes

- maturation 8-12 weeks
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