

## Programmer's ELbow

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **36**
- SRM **6.8**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **20.5 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **28.3 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **14.7 liter(s)**
- Total mash volume **20.6 liter(s)**

### Steps

- Temp **67 C**, Time **75 min**

### Mash step by step

- Heat up **14.7 liter(s)** of strike water to **76.4C**
- Add grains
- Keep mash **75 min** at **67C**
- Sparge using **19.5 liter(s)** of **76C** water or to achieve **28.3 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Simpsons - Maris Otter	5.5 kg (93.2%)	81 %	6
Grain	Caramel/Crystal Malt - 10L	0.3 kg (5.1%)	75 %	20
Grain	Caramel/Crystal Malt - 120L	0.1 kg (1.7%)	72 %	236

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	70 g	60 min	5.1 %
Boil	East Kent Goldings	30 g	1 min	5.1 %