

## Final Solutions

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- Gravity **16.8 BLG**
- ABV **7.1 %**
- IBU **69**
- SRM **10.6**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.8 liter(s)**
- Total mash volume **29 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **21.8 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **11.9 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	5 kg (69%)	79 %	6
Grain	Strzegom Monachijski typ I	2 kg (27.6%)	79 %	16
Grain	Karmelowy Czerwony	0.2 kg (2.8%)	75 %	59
Grain	Jęczmień palony	0.05 kg (0.7%)	55 %	985

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Target	60 g	60 min	10.5 %
Boil	Challenger	20 g	15 min	7 %
Aroma (end of boil)	East Kent Goldings	15 g	50 min	5.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	200 ml	Safale