

## #15 Karmel jasny

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **33**
- SRM **13**
- Style **American Stout**

### Batch size

- Expected quantity of finished beer **27.8 liter(s)**
- Trub loss **2 %**
- Size with trub loss **28.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **8 %/h**
- Boil size **32.1 liter(s)**

### Mash information

- Mash efficiency **68 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.8 liter(s)**
- Total mash volume **29 liter(s)**

### Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **21.8 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.6 liter(s)** of **76C** water or to achieve **32.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	2 kg (27.6%)	80 %	4
Grain	Strzegom Monachijski typ I	1.5 kg (20.7%)	79 %	16
Grain	Karmelowy 100	1 kg (13.8%)	75 %	100
Grain	Viking Pale Ale malt	1.5 kg (20.7%)	80 %	5
Grain	Strzegom Czekoladowy ciemny	0.05 kg (0.7%)	68 %	1200
Grain	Strzegom Wiedeński	1.2 kg (16.6%)	79 %	10

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	35 g	50 min	10 %
Boil	Lublin (Lubelski)	40 g	10 min	4 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Slant	250 ml	---