

# Kooperacja Paki Rafat

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- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **7**
- SRM **55.6**
- Style **Christmas/Winter Specialty Spiced Beer**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- 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 liter(s)**
- Total mash volume **28 liter(s)**

## Steps

- Temp **48 C**, Time **15 min**
- Temp **62 C**, Time **70 min**
- Temp **72 C**, Time **40 min**

## Mash step by step

- Heat up **21 liter(s)** of strike water to **52.7C**
- Add grains
- Keep mash **15 min** at **48C**
- Keep mash **70 min** at **62C**
- Keep mash **40 min** at **72C**
- Sparge using **12.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	4 kg (51.8%)	80 %	5
Grain	Weyermann - Carafa III	0.5 kg (6.5%)	70 %	1400
Grain	Viking Czekoladowy ciemny	0.5 kg (6.5%)	67 %	900
Grain	Słód Kawowy Ciemny	0.5 kg (6.5%)	70 %	500
Grain	Płatki owsiane	0.5 kg (6.5%)	60 %	3
Grain	Brown Malt (British Chocolate)	0.5 kg (6.5%)	70 %	128
Grain	Słód owsiany Fawcett	0.5 kg (6.5%)	61 %	5
Adjunct	Powidła Śliwkowe	0.722 kg (9.3%)	30 %	---

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Saaz (Czech Republic)	10 g	50 min	4.5 %
Boil	Saaz (Czech Republic)	10 g	30 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
S-33	Ale	Dry	11.5 g	Fermentis

## Extras

Type	Name	Amount	Use for	Time
Spice	Cynamon	3 g	Boil	30 min
Spice	Imbir	3 g	Boil	30 min
Spice	Goździki	10 g	Secondary	1 day(s)
Spice	Cynamon	10 g	Secondary	1 day(s)
Spice	Imbir	10 g	Secondary	1 day(s)