

# Kooperacja

- Gravity **13.6 BLG**
- ABV ---
- IBU **43**
- SRM **7.4**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **50.6 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **34.8 liter(s)**
- Total mash volume **44.8 liter(s)**

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	8 kg (80.4%)	80 %	5
Grain	Carahell	0.4 kg (4%)	77 %	26
Grain	caramunich	0.3 kg (3%)	--- %	90
Grain	Pszeniczny	1 kg (10.1%)	85 %	4
Grain	Monachijski	0.25 kg (2.5%)	80 %	16

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnat	35 g	60 min	14.2 %
Boil	Marynka	15 g	20 min	10 %
Boil	Lublin (Lubelski)	15 g	20 min	4 %
Boil	Marynka	25 g	10 min	10 %
Boil	Lublin (Lubelski)	25 g	10 min	4 %
Boil	Marynka	20 g	0 min	10 %
Boil	Lublin (Lubelski)	20 g	0 min	4 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	11 g	Fermentis
Safale S-04	Ale	Dry	11 g	Safale