

# Polish Red #1

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- Gravity **11.9 BLG**
- ABV **5.1 %**
- IBU **54.4**
- SRM **27.9**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **0 %**
- Size with trub loss **14 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **16.5 liter(s)**

## Mash information

- Mash efficiency **78 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **8.46 liter(s)**
- Total mash volume **11.28 liter(s)**

## Steps

- Temp **64 C**, Time **90 min**
- Temp **75 C**, Time **10 min**

## Mash step by step

- Heat up **8.46 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **90 min** at **64C**
- Keep mash **10 min** at **75C**
- Sparge using **10.9 liter(s)** of **76C** water or to achieve **16.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner Malt	1.7 kg	81.5 %	9
Grain	Viking Red Ale Malt	1 kg	77 %	212
Grain	Viking Caramel 30	0.12 kg	75 %	79

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	12 g	60 min	11.5 %
Boil	Pułaski	20 g	30 min	7.2 %
Boil	Pułaski	10 g	15 min	7.2 %
Boil	Pułaski	10 g	5 min	7.2 %
Boil	Pułaski	10 g	0 min	7.2 %

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Siarczan Magnezu (MgSO4)	8.49 g	Mash	60 min
Water Agent	Gips (Calcium Sulfate)	3.74 g	Mash	60 min
Water Agent	Sól	0.46 g	Mash	60 min