

# Haker

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **25**
- SRM **8.5**
- Style **American IPA**

## Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.7 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **16.5 liter(s)**

## Mash information

- Mash efficiency **66 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.3 liter(s)**
- Total mash volume **17.1 liter(s)**

## Steps

- Temp **64 C**, Time **55 min**
- Temp **75 C**, Time **5 min**

## Mash step by step

- Heat up **13.3 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **55 min** at **64C**
- Keep mash **5 min** at **75C**
- Sparge using **7 liter(s)** of **76C** water or to achieve **16.5 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Extra Pale Crisp	3 kg (78.9%)	82 %	4
Grain	Karmelowy Czerwony	0.5 kg (13.2%)	75 %	59
Grain	Weyermann - Carared	0.3 kg (7.9%)	75 %	45

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Idaho 7	8 g	35 min	12.7 %
Boil	Sabro	12 g	10 min	13.6 %
Aroma (end of boil)	Sabro	10 g	1 min	13.6 %
Dry Hop	Sabro	50 g	5 day(s)	13.6 %
Dry Hop	Idaho 7	50 g	5 day(s)	12.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	---

## Extras

Type	Name	Amount	Use for	Time
Spice	Pieprz czerwony	5 g	Boil	10 min
Fining	Mech Irlandzki	5 g	Boil	5 min
Water Agent	Kwas mlekowy	2 g	Mash	55 min