

# FAH

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- Gravity **10.9 BLG**
- ABV ---
- IBU **47**
- SRM **3.5**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **15 %**
- Size with trub loss **23 liter(s)**
- Boil time **90 min**
- Evaporation rate **15 %/h**
- Boil size **28.2 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.4 liter(s) / kg**
- Mash size **13.6 liter(s)**
- Total mash volume **17.6 liter(s)**

## Steps

- Temp **40 C**, Time **5 min**
- Temp **64 C**, Time **15 min**
- Temp **72 C**, Time **40 min**

## Mash step by step

- Heat up **13.6 liter(s)** of strike water to **42.9C**
- Add grains
- Keep mash **5 min** at **40C**
- Keep mash **15 min** at **64C**
- Keep mash **40 min** at **72C**
- Sparge using **18.6 liter(s)** of **76C** water or to achieve **28.2 liter(s)** of wort

## Fermentables

| Type  | Name       | Amount      | Yield | EBC |
|-------|------------|-------------|-------|-----|
| Grain | Pilzneński | 4 kg (100%) | 81 %  | 4   |

## Hops

| Use for | Name              | Amount | Time      | Alpha acid |
|---------|-------------------|--------|-----------|------------|
| Boil    | Magnum            | 20 g   | 90 min    | 11.8 %     |
| Boil    | Lublin (Lubelski) | 40 g   | 45 min    | 3.8 %      |
| Boil    | Lublin (Lubelski) | 13 g   | 7 min     | 3.8 %      |
| Dry Hop | Lublin (Lubelski) | 20 g   | 10 day(s) | 3.8 %      |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11 g   | Safale     |