

# Helles Zula/Amora Preta

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **21**
- SRM **7.3**
- Style **Munich Helles**

## Batch size

- Expected quantity of finished beer **54 liter(s)**
- Trub loss **5 %**
- Size with trub loss **56.7 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **69.9 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **33 liter(s)**
- Total mash volume **44 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **20 min**

## Mash step by step

- Heat up **33 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **40 min** at **63C**
- Keep mash **20 min** at **72C**
- Sparge using **47.9 liter(s)** of **76C** water or to achieve **69.9 liter(s)** of wort

## Fermentables

| Type        | Name                       | Amount         | Yield | EBC |
|-------------|----------------------------|----------------|-------|-----|
| Grain       | Pilzneński                 | 5 kg (39.4%)   | 81 %  | 4   |
| Grain       | Strzegom Monachijski typ I | 5 kg (39.4%)   | 79 %  | 16  |
| Dry Extract | WES ekstrakt słodowy jasny | 1.7 kg (13.4%) | 80 %  | 45  |
| Grain       | Weyermann - Spelt Malt     | 1 kg (7.9%)    | 81 %  | 6   |

## Hops

| Use for   | Name        | Amount | Time   | Alpha acid |
|-----------|-------------|--------|--------|------------|
| Boil      | Zula        | 25 g   | 60 min | 9.7 %      |
| Boil      | Zula        | 25 g   | 30 min | 9.7 %      |
| Boil      | Aroma Preta | 50 g   | 5 min  | 9 %        |
| Whirlpool | Aroma Preta | 50 g   | 0 min  | 9 %        |

## Yeasts

| Name          | Type  | Form | Amount | Laboratory |
|---------------|-------|------|--------|------------|
| Saflager S-23 | Lager | Dry  | 22.5 g | ---        |

## Notes

- Kwas fosforowy 6ml do brzezki i 4ml do wystadzania  
Brzezka 21.04  
Fermentacja burzliwa 15dni  
Stopniowanie temp. fermentacji  
Rozlew 20.05  
300g glukozy na 48l  
*Apr 21, 2021, 10:05 AM*