

## union jack

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **69**
- SRM **7**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **29 liter(s)**
- Trub loss **5 %**
- Size with trub loss **30.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **36.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **24 liter(s)**
- Total mash volume **32 liter(s)**

### Fermentables

| Type  | Name                         | Amount          | Yield | EBC |
|-------|------------------------------|-----------------|-------|-----|
| Grain | Briess - Pale Ale Malt       | 6.88 kg (85.9%) | 80 %  | 7   |
| Grain | Monachijski                  | 0.48 kg (6%)    | 80 %  | 16  |
| Grain | Cara Blonde - Castle Malting | 0.4 kg (5%)     | 78 %  | 20  |
| Grain | Strzegom Karmel 150          | 0.25 kg (3.1%)  | 75 %  | 100 |

### Hops

| Use for             | Name       | Amount | Time     | Alpha acid |
|---------------------|------------|--------|----------|------------|
| First Wort          | Magnum     | 40 g   | 60 min   | 13.5 %     |
| Boil                | Cascade    | 40 g   | 30 min   | 7.1 %      |
| Aroma (end of boil) | Centennial | 40 g   | 10 min   | 10.1 %     |
| Whirlpool           | Cascade    | 45 g   | 0 min    | 7.1 %      |
| Whirlpool           | Centennial | 45 g   | 0 min    | 10.1 %     |
| Dry Hop             | Cascade    | 45 g   | 2 day(s) | 6 %        |
| Dry Hop             | Centennial | 65 g   | 2 day(s) | 10.1 %     |