

Fremlins Bitter (clone) - 3.9%

Best Bitter

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Type: All Grain

IBU : 32 (Tinseth)
 BU/GU : 0.9
 Colour : 18 EBC
 Carbonation : 1.8 CO2-vol

Pre-Boil Gravity : 1.019
 Original Gravity : 1.034
 Total Gravity : 1.036
 Final Gravity : 1.006

Fermentables (791 g)

280 g - Maris Otter 5.5 EBC (35.4%)
 ^ The Malt Miller (UK) MAL-00-038
 280 g - Pale Ale Malt 5.5 EBC (35.4%)
 ^ The Malt Miller (UK) MAL-00-042
 97 g - Demerara Sugar 3.9 EBC (12.3%)
 97 g - Torrifified Wheat 3.9 EBC (12.3%)
 ^ The Malt Miller (UK) MAL-03-006
 37 g - Extra Dark Crystal Malt 400 EBC (4.7%)
 ^ The Malt Miller (UK) MAL-01-004
 20 g - Bottling - Sugar, Table (Sucrose) 2 EBC
 ^ Albert Heijn (NL)

Hops (26.1 g)

60 min - 5.4 g - Goldings - 5.6% (18 IBU)
 ^ Hopeye (GB) HE-50G-HOPS-GOLDINGS (50 grams)
 10 min - 7.3 g - Fuggles - 4.5% (7 IBU)
 ^ The Malt Miller (UK) HOP-04-002
 5 min - 7.3 g - Pioneer - 9% (8 IBU)

Dry Hops

5 days - 6.1 g - Pioneer - 9%

Miscellaneous

Mash - 0.3 g - Baking Soda (NaHCO3)
 ^ Lot # 41190621/3
 ^ Brouwstore (NL) 003.106.2
 Mash - 0.81 g - Calcium Chloride (CaCl2) 33 %...
 ^ Lot # 115038
 ^ Brouwstore (NL) 055.035.0
 Mash - 0.8 g - Canning Salt (NaCl)
 ^ Albert Heijn (NL)
 Mash - 1.23 g - Epsom Salt (MgSO4)
 ^ Lot # /2119000091
 ^ Brouwstore (NL) 055.027.7
 Mash - 1.59 g - Gypsum (CaSO4)
 ^ The Malt Miller (UK) CHE-03-004

Yeast

0.3 pkg - Mangrove Jack's Empire Ale Yeast M15
 ^ The Malt Miller (UK) YEA-02-036

Cells

8 million cells / ml

01 Brouwpunt 5L (90min) (rev 4)

Batch Size : 5.6 L
 Boil Size : 8.66 L
 Post-Boil Vol : 5.96 L

Mash Water : 1.79 L
 Sparge Water : 7.56 L
 Boil Time : 90 min
 Total Water : 9.35 L



18 EBC

Brewhouse Efficiency: 71.8%
 Mash Efficiency: 73.3%

Mash Profile

01 One Step Mash (60 min)
 72.1 °C - Strike Temp
 66 °C - 60 min - Temperature
 77 °C - 10 min - Mash out

Fermentation Profile

01 Ale + DR + Conditioning
 18 °C - 10 days - Primary
 21 °C - 4 days - Diacetyl rest
 18 °C - 14 days - Carbonation
 18 °C - 28 days - Conditioning

Water Profile

02 NL Spa Reine Flat Mineral Water (www.ah.nl...)
 Ca 55 Mg 15 Na 45 Cl 75 SO 150

SO/Cl ratio: 2
 Mash pH: 5.21
 Sparge pH: 6

Measurements

Mash pH:

Boil Volume:

Pre-Boil Gravity:

Post-Boil Kettle Volume:

Original Gravity:

Fermenter Top-Up:

Fermenter Volume:

Final Gravity:

Bottling Volume:

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Recipe Notes

Target: ABV = 3.9 %, IBU = 26.1, EBC = 17.9, OG = 1.038, FG = 1.008.
Pitch 3 grams of yeast @ 18 C.