

```
<?xml version="1.0" encoding="UTF-8"?>
<enderio:recipes xmlns:enderio="http://enderio.com/recipes" xmlns:xsi="http://www.w3.
org/2001/XMLSchema-instance" xsi:schemaLocation="http://enderio.com/recipes recipes.
xsd ">
```

```
<!--
```

These are the built-in recipes. You cannot change this file, it is a reference for you only and will be generated every time the game starts.

To make changes to the recipes, copy the recipes you want to change to a file in the 'user' folder. To disable a recipe, add an attribute "disabled" and set it to true, e.g.: <recipe name="Gear" disabled="true" />

You can also disable all built-in recipes with the setting "loadCoreRecipes" in the Ender IO config file, so that only your files in the 'user' folder will be loaded. Please be advised that a number of recipes are absolutely needed, so you will have to copy those over into a 'user' file for the game to load.

Item specifications can reference an alias, an ore dictionary name, a block or an item. You can force the type by prefixing the value with "oredict:", "block:" or "item:". Recipes that have items that cannot be found in-game are either skipped or an error, depending on their "required" attribute.

More information on the syntax can be found in the recipes.xsd file. An XML editor will display that as tooltips when editing this file.

```
-->
```

```
<!--
```

Grinding Balls:

Grinding balls provide bonus outputs and reduced power use. Using the user config new grinding balls may be added and existing ones removed.

Use of the grinding ball is restricted by the bonusType of the recipe. If it is set to "none", it will not have any grinding

ball bonuses applied and will not reduce the durability of any balls in the mill at the time it is processed. If it is set

to "chance_only", the chance and power multipliers of the grinding balls are applied, but not the grinding multiplier. If it is set to "multiply_output" (default), all multipliers apply.

- grinding: The recipe output will be produced this many times. e.g. "3.14" would produce 3 copies of the complete output set and a 14% chance for a forth copy.

- chance: The chances for the different outputs of the recipe are multiplied with this. e.g. if a recipe specifies <output name="cobblestone" chance="0.15" /> a chance multiplier of "3.14" would make it a 47.1% chance of getting one cobblestone. Results of more than 100% do not give multiples.

- power: The "energy cost" of the recipe is multiplied with this.

- durability: This specifies how long one grinding ball will last before it is used up. The unit is the amount of power used by the SAG Mill.

```
-->
```

```
<!-- Endergy Grinding Balls -->
```

```
<grindingball name="Crude Steel Ball" grinding="1.2" chance="1.25" power="0.85"
durability="24000" >
  <item name="ballCrudeSteel"/>
</grindingball>
```

```

<grindingball name="Crystalline Alloy Ball" grinding="1.8" chance="1.4" power="1.45"
durability="80000" >
  <item name="ballCrystallineAlloy"/>
</grindingball>

<grindingball name="Melodic Alloy Ball" grinding="2.0" chance="1.45" power="1.55"
durability="80000" >
  <item name="ballMelodicAlloy"/>
</grindingball>

<grindingball name="Stellar Alloy Ball" grinding="2.3" chance="2.25" power="2.2"
durability="160000" >
  <item name="ballStellarAlloy"/>
</grindingball>

<grindingball name="Crystalline Pink Slime Ball" grinding="1.75" chance="1.55" power="
1.55" durability="80000" >
  <item name="ballCrystallinePinkSlime"/>
</grindingball>

<grindingball name="Energetic Sliver Ball" grinding="1.6" chance="1.1" power="1.1"
durability="80000" >
  <item name="ballEnergeticSilver"/>
</grindingball>

<grindingball name="Vivid Alloy Ball" grinding="1.75" chance="1.35" power="1.35"
durability="80000" >
  <item name="ballVividAlloy"/>
</grindingball>

  <recipe name="Crude Steel Ball Crafting" required="true">
    <crafting>
      <grid>
        <item/><item name="ingotCrudeSteel"/><item/>
        <item name="ingotCrudeSteel"/><item name="ingotCrudeSteel"/><item name="
ingotCrudeSteel"/>
        <item/><item name="ingotCrudeSteel"/><item/>
      </grid>
      <output name="ballCrudeSteel" amount="24"/>
    </crafting>
  </recipe>

  <recipe name="Crude Steel Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
      <input name="nuggetCrudeSteel" amount="1.875"/><!-- 30mB -->
      <cast name="tconstruct:cast_custom:2"/>
      <output name="ballCrudeSteel"/>
    </casting>
  </recipe>

  <recipe name="Crude Steel Ball Smelting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <smelting tinkers="true" vanilla="false">
      <input name="ballCrudeSteel" amount="24"/>
      <output name="ingotCrudeSteel" amount="5"/>
    </smelting>
  </recipe>

  <recipe name="Crude Steel Ball Reverse Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
      <input name="ingotGold" amount="2"/>
      <cast name="ballCrudeSteel" consumed="true"/>
      <output name="tconstruct:cast_custom:2"/>
    </casting>
  </recipe>

```

```

<recipe name="Crystalline Alloy Ball Crafting" required="true">
  <crafting>
    <grid>
      <item/><item name="ingotCrystallineAlloy"/><item/>
      <item name="ingotCrystallineAlloy"/><item name="ingotCrystallineAlloy"/><item
name="ingotCrystallineAlloy"/>
      <item/><item name="ingotCrystallineAlloy"/><item/>
    </grid>
    <output name="ballCrystallineAlloy" amount="24"/>
  </crafting>
</recipe>

<recipe name="Crystalline Alloy Casting" required="true">
  <dependency item="tconstruct:cast_custom:2"/>
  <casting>
    <input name="nuggetCrystallineAlloy" amount="1.875"/><!-- 30mB -->
    <cast name="tconstruct:cast_custom:2"/>
    <output name="ballCrystallineAlloy"/>
  </casting>
</recipe>

<recipe name="Crystalline Alloy Ball Smelting" required="true">
  <dependency item="tconstruct:cast_custom:2"/>
  <smelting tinkers="true" vanilla="false">
    <input name="ballCrystallineAlloy" amount="24"/>
    <output name="ingotCrystallineAlloy" amount="5"/>
  </smelting>
</recipe>

<recipe name="Crystalline Alloy Ball Reverse Casting" required="true">
  <dependency item="tconstruct:cast_custom:2"/>
  <casting>
    <input name="ingotGold" amount="2"/>
    <cast name="ballCrystallineAlloy" consumed="true"/>
    <output name="tconstruct:cast_custom:2"/>
  </casting>
</recipe>

<recipe name="Melodic Alloy Ball Crafting" required="true">
  <crafting>
    <grid>
      <item/><item name="ingotMelodicAlloy"/><item/>
      <item name="ingotMelodicAlloy"/><item name="ingotMelodicAlloy"/><item name="
ingotMelodicAlloy"/>
      <item/><item name="ingotMelodicAlloy"/><item/>
    </grid>
    <output name="ballMelodicAlloy" amount="24"/>
  </crafting>
</recipe>

<recipe name="Melodic Alloy Casting" required="true">
  <dependency item="tconstruct:cast_custom:2"/>
  <casting>
    <input name="nuggetMelodicAlloy" amount="1.875"/><!-- 30mB -->
    <cast name="tconstruct:cast_custom:2"/>
    <output name="ballMelodicAlloy"/>
  </casting>
</recipe>

<recipe name="Melodic Alloy Ball Smelting" required="true">
  <dependency item="tconstruct:cast_custom:2"/>
  <smelting tinkers="true" vanilla="false">
    <input name="ballMelodicAlloy" amount="24"/>
    <output name="ingotMelodicAlloy" amount="5"/>
  </smelting>
</recipe>

<recipe name="Melodic Alloy Ball Reverse Casting" required="true">

```

```

    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
        <input name="ingotGold" amount="2"/>
        <cast name="ballMelodicAlloy" consumed="true"/>
        <output name="tconstruct:cast_custom:2"/>
    </casting>
</recipe>

<recipe name="Stellar Alloy Ball Crafting" required="true">
    <crafting>
        <grid>
            <item/><item name="ingotStellarAlloy"/><item/>
            <item name="ingotStellarAlloy"/><item name="ingotStellarAlloy"/><item name="ingotStellarAlloy"/>
            <item/><item name="ingotStellarAlloy"/><item/>
        </grid>
        <output name="ballStellarAlloy" amount="24"/>
    </crafting>
</recipe>

<recipe name="Stellar Alloy Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
        <input name="nuggetStellarAlloy" amount="1.875"/><!-- 30mB -->
        <cast name="tconstruct:cast_custom:2"/>
        <output name="ballStellarAlloy"/>
    </casting>
</recipe>

<recipe name="Stellar Alloy Ball Smelting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <smelting tinkers="true" vanilla="false">
        <input name="ballStellarAlloy" amount="24"/>
        <output name="ingotStellarAlloy" amount="5"/>
    </smelting>
</recipe>

<recipe name="Stellar Alloy Ball Reverse Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
        <input name="ingotGold" amount="2"/>
        <cast name="ballStellarAlloy" consumed="true"/>
        <output name="tconstruct:cast_custom:2"/>
    </casting>
</recipe>

<recipe name="Crystalline Pink Slime Ball Crafting" required="true">
    <crafting>
        <grid>
            <item/><item name="ingotCrystallinePinkSlime"/><item/>
            <item name="ingotCrystallinePinkSlime"/><item name="ingotCrystallinePinkSlime"/>
/><item name="ingotCrystallinePinkSlime"/>
            <item/><item name="ingotCrystallinePinkSlime"/><item/>
        </grid>
        <output name="ballCrystallinePinkSlime" amount="24"/>
    </crafting>
</recipe>

<recipe name="Crystalline Pink Slime Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
        <input name="nuggetCrystallinePinkSlime" amount="1.875"/><!-- 30mB -->
        <cast name="tconstruct:cast_custom:2"/>
        <output name="ballCrystallinePinkSlime"/>
    </casting>
</recipe>

<recipe name="Crystalline Pink Slime Ball Smelting" required="true">

```

```

    <dependency item="tconstruct:cast_custom:2"/>
    <smelting tinkers="true" vanilla="false">
      <input name="ballCrystallinePinkSlime" amount="24"/>
      <output name="ingotCrystallinePinkSlime" amount="5"/>
    </smelting>
  </recipe>

  <recipe name="Crystalline Pink Slime Ball Reverse Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
      <input name="ingotGold" amount="2"/>
      <cast name="ballCrystallinePinkSlime" consumed="true"/>
      <output name="tconstruct:cast_custom:2"/>
    </casting>
  </recipe>

  <recipe name="Energetic Silver Ball Crafting" required="true">
    <crafting>
      <grid>
        <item/><item name="ingotEnergeticSilver"/><item/>
        <item name="ingotEnergeticSilver"/><item name="ingotEnergeticSilver"/><item
name="ingotEnergeticSilver"/>
        <item/><item name="ingotEnergeticSilver"/><item/>
      </grid>
      <output name="ballEnergeticSilver" amount="24"/>
    </crafting>
  </recipe>

  <recipe name="Energetic Silver Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
      <input name="nuggetEnergeticSilver" amount="1.875"/><!-- 30mB -->
      <cast name="tconstruct:cast_custom:2"/>
      <output name="ballEnergeticSilver"/>
    </casting>
  </recipe>

  <recipe name="Energetic Silver Ball Smelting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <smelting tinkers="true" vanilla="false">
      <input name="ballEnergeticSilver" amount="24"/>
      <output name="ingotEnergeticSilver" amount="5"/>
    </smelting>
  </recipe>

  <recipe name="Energetic Silver Ball Reverse Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>
    <casting>
      <input name="ingotGold" amount="2"/>
      <cast name="ballEnergeticSilver" consumed="true"/>
      <output name="tconstruct:cast_custom:2"/>
    </casting>
  </recipe>

  <recipe name="Vivid Alloy Ball Crafting" required="true">
    <crafting>
      <grid>
        <item/><item name="ingotVividAlloy"/><item/>
        <item name="ingotVividAlloy"/><item name="ingotVividAlloy"/><item name="
ingotVividAlloy"/>
        <item/><item name="ingotVividAlloy"/><item/>
      </grid>
      <output name="ballVividAlloy" amount="24"/>
    </crafting>
  </recipe>

  <recipe name="Vivid Alloy Casting" required="true">
    <dependency item="tconstruct:cast_custom:2"/>

```

```
<casting>
  <input name="nuggetVividAlloy" amount="1.875"/><!-- 30mB -->
  <cast name="tconstruct:cast_custom:2"/>
  <output name="ballVividAlloy"/>
</casting>
</recipe>

<recipe name="Vivid Alloy Ball Smelting" required="true">
  <dependency item="tconstruct:cast_custom:2"/>
  <smelting tinkers="true" vanilla="false">
    <input name="ballVividAlloy" amount="24"/>
    <output name="ingotVividAlloy" amount="5"/>
  </smelting>
</recipe>

<recipe name="Vivid Alloy Ball Reverse Casting" required="true">
  <dependency item="tconstruct:cast_custom:2"/>
  <casting>
    <input name="ingotGold" amount="2"/>
    <cast name="ballVividAlloy" consumed="true"/>
    <output name="tconstruct:cast_custom:2"/>
  </casting>
</recipe>

</enderio:recipes>
```