



BIO-MATERIAL COOKBOOK



G E L A T I N

+

A G A R



BIO RESIN - GELATIN

Recipe

Ingredients

48	grams	Gelatine
8	grams	Glycerine
240	ml	Water
1	Tbd	Pigment

Method

1. Warm up water in pot on stove
2. Add Glycerine (plasticiser)
3. Add Gelatine (polymer)
4. Mix gently until smooth
5. Simmer 10-15 minutes (86 degrees C max)
6. Prepare moulds/ surfaces to cast in
7. Prepare colours in separate containers
8. Once thickened (like syrup) pour slowly avoiding addition of air) into mould
9. Let dry in ventilated dry room

Properties / Appearance

- Many small bubbles
- Yellow / Golden in colour
- Shiny on both sides
- Thick
- Very solid, strong yet flexible
- Transparant



BIO FOIL (AGAR)

Recipe

Ingredients

4	grams	Agar
3	grams	Glycerine
400	ml	Water
1	tbd	Pigment

Method

1. Warm water in pot on stove
2. Add Glycerine (plasticiser)
3. Add Agar (polymer)
4. Gently mix until smooth (agar can take longer to dissolve add 60 degree C heat to help ingredients mix)
5. Simmer for 20 minutes (80 degrees C max)
6. Prepare surfaces / moulds (allow for shrinkage in thickness and width)
7. Prepare colours in separate pots
8. Once mix has thickened (syrup consistency) pour slowly to avoid air bubbles
9. Let dry in ventilated, dry room. Necessary to keep piece in mould/ surface for smooth effect.

Properties / Appearance

- Delicate
- Thin (high shrinkage)
- Transparent (90%)
- Very flexible



BIO FOIL (GELATIN + AGAR)

Recipe

Ingredients

3	grams	Agar
20	grams	Gelatine
5	grams	Glycerine
500	ml	Water
1	tbd	Pigment

Method

1. Warm water in a pot on stove
2. Add Glycerine (plasticiser)
3. Add Agar and Gelatine (polymer)
4. Mix gently until smooth
5. Simmer for 20 minutes (80 degrees max)
6. Prepare surfaces and moulds to cast (allow for shrinkage in thickness and width)
7. Prepare colours in separate pots
8. Once mixture is thickened (syrup consistency) pour slowly (avoid air bubbles) on chosen surface
9. Allow to dry in ventilated, dry room (necessary to keep agar in mould for smooth effect)

Properties / Appearance

- Surprisingly strong/ flexible
- Clear in colour
- Transparent yet blurry in appearance
- Shiny face down, opaque face up
- Blurry texture
- Thin (high shrinkage)



BIO FOAM (GELATIN, NO SOAP)

Recipe

Ingredients

48	grams	Gelatine
8	grams	Glycerine
240	ml	Water
1	tbd	Pigment

Method

1. Warm water in pot on stove
2. Add Glycerine (plasticiser)
3. Add Gelatine (Polymer)
4. Mix gently until smooth
5. Boil for 15-20 minutes (86 degrees C max)
6. Prepare surfaces / moulds
7. Prepare colours in separate pots
8. Once mix is thick (syrup) pour slowly (avoid air bubbles)
9. Let dry in ventilated, dry room

Properties / Appearance

- Yellow/ golden in colour
- Transparent (100%)
- Very strong and solid, yet can bend
- Some bubbles but not many
- Shiny/ smooth both sides



BIO FOAM (GELATIN + SOAP)

Recipe

Ingredients

48	grams	Gelatine
8	grams	Glycerine
240	ml	Water
1	tbsp	Soap
1	tbd	Pigment

Method

1. Warm water in pot on stove
2. Add Glycerine (plasticiser)
3. Add Gelatine (Polymer)
4. Mix gently until smooth
5. Add a tablespoon of dishwashing soap
6. Boil for 15-20 minutes (86 degrees C max)
7. Prepare surfaces / moulds
8. Prepare colours in separate pots
9. Once mix is thick (syrup) pour slowly (avoid air bubbles)
10. Let dry in ventilated, dry room

Properties / Appearance

- White / opaque in colour
- Many bubbles
- Firm yet flexible
- Strong and dense
- Shiny, smooth surface face down
- Matt, bubble surface face up
- Holds bend and slowly goes back to shape

ALGINATE



FLEXIBLE BIO PLASTIC

THICK

Recipe

100	grams	Glycerine
60	grams	Alginate
1	litre	Water
50	grams	Sunflower oil

Method

1. First mix liquid and liquid (glycerine with water)
2. Slowly add alginate
3. Add sunflower oil
4. Mix using electric blender and combine well, until there are no bits
5. Let mixture sit for 12 hours minimum to avoid air bubbles
6. If using syringe, fill it in preparation
7. Add colour
8. Pour into mould / surface
9. Use calcium chloride mixed with water to cure and seal alginate

Properties / Appearance

- White and milky in colour due to sunflower oil
- Opaque due to sunflower oil (emulsion)
- Very thick consistency
- Flexible



BIO SHEET + YARN

MEDIUM

Recipe

100 grams Glycerine
30 grams Alginate
1 litre Water

Method

1. First mix liquid and liquid (glycerine with water)
2. Slowly add alginate
3. Mix using electric blender and combine well, until there are no bits
4. Let mixture sit for 12 hours minimum to avoid air bubbles
5. If using syringe, fill it in preparation
6. Add colour
7. Pour into mould / surface
8. Use calcium chloride mixed with water to cure and seal alginate

Properties / Appearance

- Transparent and clear in colour
- Flexible
- Medium thickness consistency



FLEXIBLE BIO FOIL

THIN

Recipe

75 grams Glycerine
30 grams Alginate
1 litre Water

Method

1. First mix liquid and liquid (glycerine with water)
2. Slowly add alginate
3. Mix using electric blender and combine well, until there are no bits
4. Let mixture sit for 12 hours minimum to avoid air bubbles
5. If using syringe, fill it in preparation
6. Add colour
7. Pour into mould / surface
8. Use calcium chloride mixed with water to cure and seal alginate

Properties / Appearance

- Transparent
- Slight grey colour (wine residue from blender)
- Flexible
- Thinner consistency