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ARMOUR 101

By the Cosplay Repair
Station

COSPLAY REPAIR STATION



Located in ECS 128

We specialize in quick fixes,
'cos it breaks!

Fri: 2p - 6p
Sat: 11a - 6p
Sun: 11a - 4p

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TOPICS

Patterning

Types of Armour Material

Supplies and Techniques

Priming Armour

Painting

Sealing / Varnish

Attaching

Question Period

PATTERNING

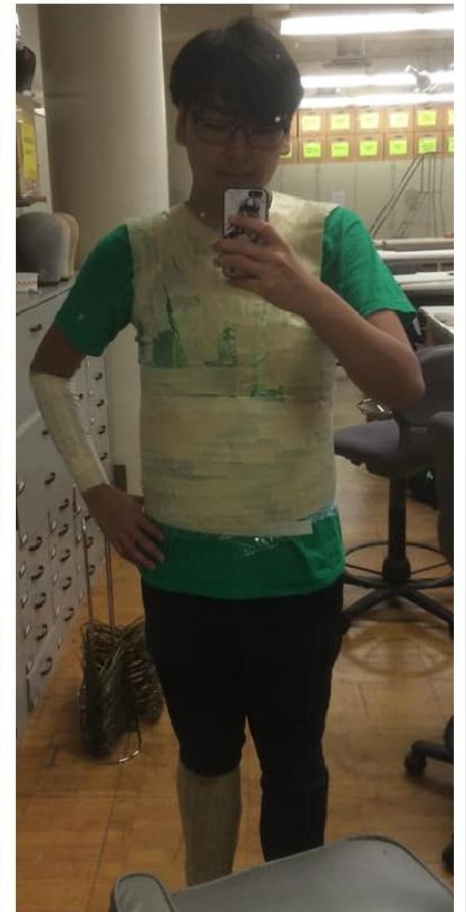
Method 1: Plastic Wrap+Tape

- Step 1: Cover desired area with plastic wrap
- Step 2: Cover again with masking tape over the wrap
- Step 3: Draw outline of armor
Cut wrap off, paying attention to seam line placement
- Step 4: Trace out pattern onto paper

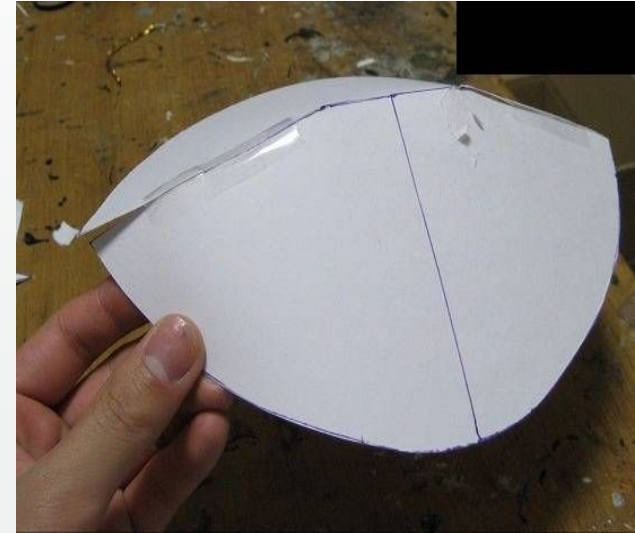


PATTERNING

Method 1:
Plastic Wrap
+ Tape



PATTERNING CONT.



Method 2: Franken-pattern

Step 1: Start with a basic shape for the piece, cut from paper

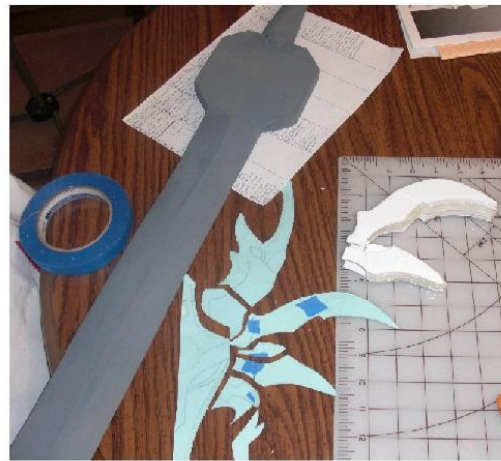
Step 2: Note the measurements your piece needs to be

Step 3: Cut and tape paper onto or off the pattern until it matches the measurements and looks how you want.

Step 4: Trace this mess onto a new sheet

PATTERNING CONT.

Method 2:
Franken-pattern



TYPES OF ARMOUR MATERIAL

	Price	Where to Find	Difficulty Lvl
Paper Mache	Free to \$	Recycling bin	Low
Cardboard	Free to \$	Recycling bin	Moderate
Craft foam	\$	Craft stores	Low
EVA foam	\$\$	Hardware stores, sport goods stores, online	Low
Thermoplastics	\$\$\$ - \$\$\$\$	Online, some craft stores	Moderate to Hard

TYPES OF ARMOUR MATERIAL for Base

Craft foam or EVA foam

Styrofoam

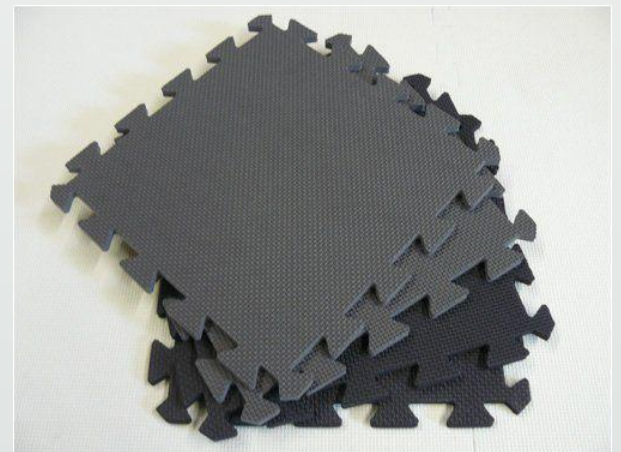
Insulation foam (pink or purple)

Expanding foam

Thermoplastics:

Wonderflex

Worbla / Black Worbla
and more!



TYPES OF ARMOUR MATERIAL for Details

Resin clay

Friendly Plastic

Stretch vinyl/pleather

Hot glue and puffy paint

Thermoplastics:

Various Worbla products

Thibra

and more!



Pro tip: Pipe hot glue or Worbla into silicone fondant molds for precise details

TYPES OF ARMOUR MATERIAL for Base or Details



TYPES OF ARMOUR MATERIAL not covered

ABS plastic

Fiberglass

Resin casting

3D printing (PLA or resin)

Everything else!

SUPPLIES AND TECHNIQUES

Heat gun

X-acto knife

Sharp scissors

Contact cement, super glue

Hot glue

Dremel

Sandpaper

Cutting mat or surface

Ruler/straight edge

Markers

SUPPLIES AND TECHNIQUES CONT.

- . To cut foam: use a sharp blade/X-acto knife. You can use straight edge if needed.
- . For thermoplastics and foam: heat material to shape with a heat gun and form object as needed.
 - . For round shapes: Worbla: stretch around acrylic ball.
 - . EVA foam: press into round bowl.
 - . Be sure to protect your work surface with a cutting mat or alternative.
- . Worbla: cut slightly larger pattern to cover craft foam base.
- . *Make your own foam ruler for exact measurements.*

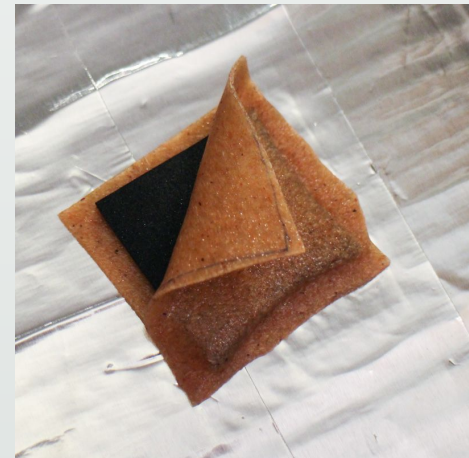
SUPPLIES AND TECHNIQUES CONT.

- Contact cement - It is good for large foam surface areas and seams. It creates a strong bond – you apply to both sides of the foam. Be sure to follow instructions.
- Superglue is useful for small foam attachments.
- Hot glue is very general and good for quick and simple attachments. However contact cement and superglue are both cleaner and stronger when used correctly.
- For beveled edges, cut foam at a slant with sharp knife or x-acto knife, and you can also Dremel or sand. Beveled edges make the final product look more dimensional.

SUPPLIES AND TECHNIQUES CONT.

WORBLA

- Craft foam typically should be the base of your Worbla structure, as Worbla can be fragile alone.
- To combine materials, heat the Worbla (shiny side up) and apply craft foam layer.
- To conserve Worbla, fold Worbla over edges of foam.
- Alternatively, you may “sandwich” whole pieces of Worbla and trim excess.



PRIMING ARMOUR

Why do we need to prime?

Though sometimes you can get away without priming, it prepares your armour for its paint job.

Creates a smooth, sealed, and clean surface for your paint job. EVA foam absorbs paint, and Worbla has a rough surface. Priming solves these issues.

Especially important for metallic paint



PRIMING ARMOUR CONT.

	Price	Method	Where to Find	Sandable?
Wood Glue	\$30~ for 3L (cheaper in bulk)	Brush	Most hardware stores	N
Gesso	\$30-40 for 1L	Brush	Michaels**, Opus, Deserres	Y
Mod Podge	\$20~ for almost 1L	Brush	Michaels**	Y
Plasti-Dip	\$20-25 per can in Canada	Spray	Online, US, or Canadian Tire	N
Rust-Oleum Primer	\$8~10 for a can	Spray	Most hardware stores	N

** Without coupon. Make sure you coupon up!

PRIMING ARMOUR CONT.

- For the best paint job, keep your priming smooth
- Use sandpaper to erase brush strokes after drying
- For spray primers, follow instructions and keep your layers light
- Do not over apply your primer or you may be left with a runny surface

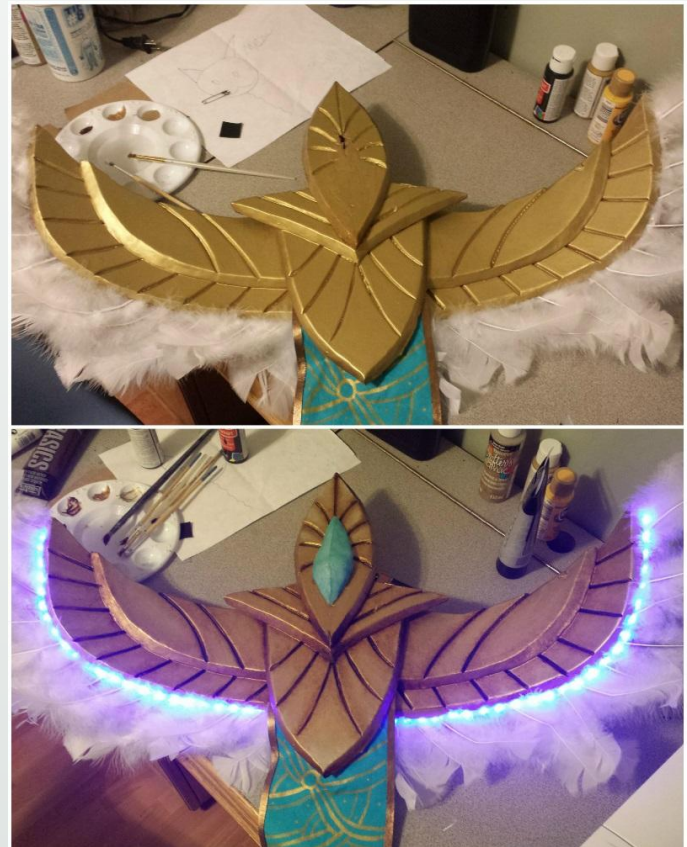
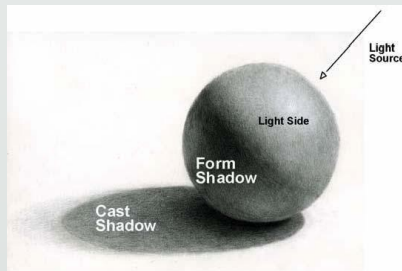


PAINTING

- After a clean priming job, time to start painting!
- There are many techniques to painting. If you don't need much detail, using spray paint can be a simple solution.
 - To ensure your spray paint does not "bead" against the primer, **test your paint first! Lacquer hates enamel and acrylic**
- For detailing and shading – Acrylics

PAINTING CONT.

- Armour should begin with a base colour in between the darkest and lightest (spray paint is fine)
- Dab on a darker colour of the base where shadows would be, vice versa for lighter
- You can flick a paint brush with red paint to create blood effects



SEALING / VARNISH

Why apply a finishing coat?

- Protection against the elements

- Scratches

- Enhance final finish

What's your desired end result?

- Glossy, Matte, Satin, Metallic

Test sample!

The test sample should be a scrap of the same material, with the same paint/finish as the rest of your armor.

SEALING / VARNISH CONT.

What paint type did you use?

Laquer

- Alclad Lacquer Klear Kote, Testor sealer metalizer



Enamel

- Enamel Clear coat (spray can)



Acrylic

- Krylon Acrylic Spray Paint Crystal Clear
- Liquitex Varnish



Latex or Plasti-Dip

- Plasti Dip Clear (matte) or Glossifier



ATTACHING ARMOUR

Common Materials

- Velcro
 - Preferably not adhesive Velcro
- Nylon Webbing
- Sewing Elastic
- D-Rings
- Side Release Buckles and Slides
- Snaps and Hooks
 - For Fabric to Armour
- Cords or Ribbons
 - Not as strong, but can be useful for character-specific designs.



ATTACHMENTS CONT. - COMBINATIONS

Elastic



You can glue directly on the armour

Nylon / Side
Release
Buckle



Can be sewn like a bra or belt!

Nylon /
D-Ring /
Velcro



Before priming, you can attach
D-Rings to the Worbla

Snap

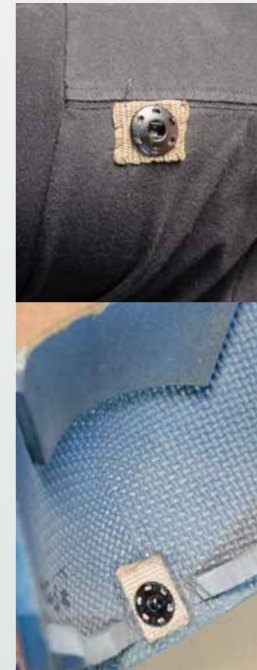


Photo by Bill Doran

There are many combinations. Plan ahead!

Questions?
Thanks for attending!

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