Inexpensive Hydro Dipping for all ages and disciplines!

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Presentation Information

https://tinyurl.com/yezw3mjh

Instruction guide is linked into the presentation (Google Doc.)

A Little About Myself:

- Teach at Cedarburg High School (1100 students) (Alumnus 1984).
- Graduate U.W-Platteville 1989: Industrial Technology/Industrial Sales, Technology Education.
- 11 + years in Private Sector/ Industrial Sales and Coatings Contractor.
- 22 years Teaching experience 3 different School Districts.
- Cedarburg H.S. - last 2 years.
- District wide Referendum 2018 provide a New Tech Ed facility finished in 2020 (helped by local industry professionals) .
- Currently teaching Metals and Manufacturing Pathway classes and PLTW Engineering Classes (also Woods, Autos, Architecture Design, and Robotics Course Pathways available).

Our Facility:

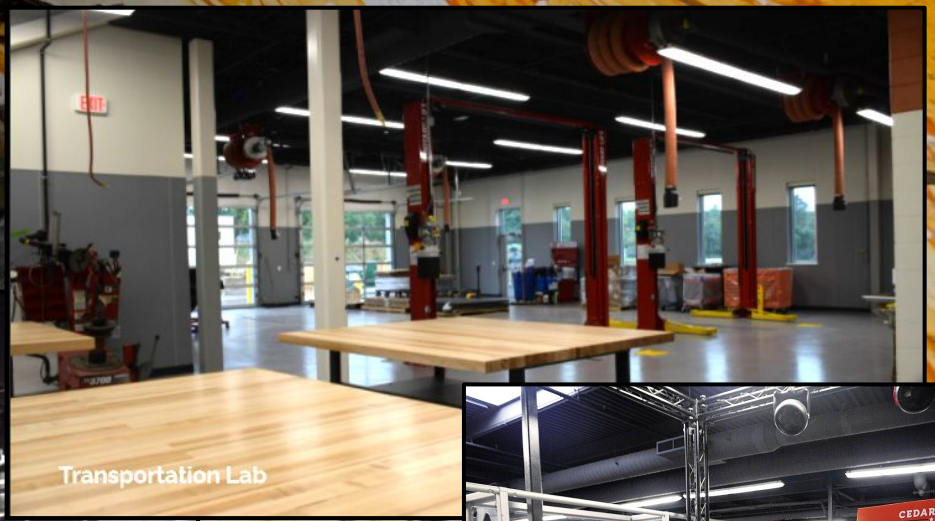
Engineering and Technology Classrooms Upgrades

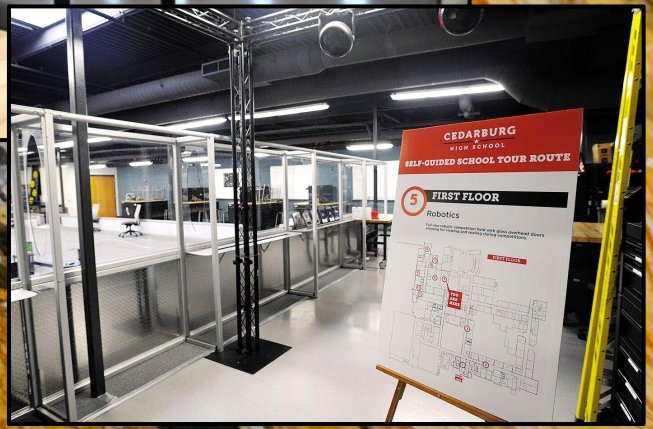
Our Facility cont'd:

Combination Lab

Transportation Lab/Classroom

Robotics Lab





Specialized Coatings

Specialized coatings are engineered barriers that adhere to a material's surface and protect parts from damage due to extreme environmental, chemical, and wear situations they are put through. Coatings create durability and enhance the value of a product’s marketability. Industry standards must always be addressed when it comes to product protection, analytics, and safety. This makes for a strong commitment in our area to the belief of creating pathways for students to pursue these applications and interests.

What's Hydro Dipping/Hydrographics

Water transfer printing, also known as immersion printing, water transfer imaging, hydro dipping, water marbling, cubic printing, Hydrographics, or HydroGraphics, is a method of applying printed designs to three-dimensional surfaces. The resulting combinations may be considered decorative finishing.

Hydrographics vs. Hydro Dipping?

Hydrographics

The process of dissolving a decorative film with a chemical activator in a large tank which allows you to transfer the ink from the onto an object. The pattern becomes one with the object. Apply a clear coat to your product and you will get a scratch-resistant, highly durable and realistic look.

Hydrographics Pros and Cons:

Pros:

- Printable on all types of surfaces and materials.
- Complete wrapped design around entire surface.
- High quality, patterned finish, realistic looks.
- No Shrinkage after application.

Cons:

- Initial equipment start up cost can be expensive.
- The need for a well ventilated area (fumes from activator - dangerous).
- Water needs to be specific temperature throughout the process.
- Timing is everything.
- Product needs to be rinsed after dipping to remove excess film residue.
- Skin may not take.
- Tank needs to be cleaned of excess skin after every use.

Hydrographics vs. Hydro Dipping?

Simple Hydro Dipping/Water Transfer

The process of applying colored paints (sprayed) topically into a vessel of water and by submerging objects through the surface which will create an indelible coating to the object's surface.

Simple Hydro Dipping Pros and Cons:

Pros:

- Inexpensive, consumable products used (Local Super/Dollar Stores).
- Printable on all types of surfaces and materials.
- Little clean up (skim top of water with rag or paper towel, dump water).
- Can be done anywhere: Indoors and outside.
- High quality, unique patterned finish.
- No 2 finishes are alike.
- Colors can be added during process.
- Can dip multiple times during a single process.

Cons:

- Colors and Patterns change with every dip and secondary dip.
- Drying/Curing time and location needed.
- It may catch on with others around the school and become a control issue!

Hydro Dipping Equipment Needed:

Tools & Equipment Needed:

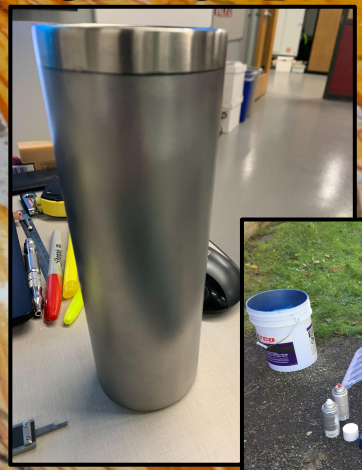
1. Products to be dipped.
2. PPG (gloves, glasses, PPG age-appropriate).
3. Containers / Buckets (for Processing).
4. Water source (75-90º).
5. Spray Paints (Rustoleum 2X).
6. Holders (optional).
7. Tape
8. Stirring tools.
9. Drop cloths (optional for inside).
10. Air Source (for drying) Compressed/Natural.
11. Rack / drying area.
12. Clear-Coat for finishing.

Hydro Dipping Process & Demonstration:

Hydro Dipping Guide and Rubric

Steps:

1. Pretreat and paint base coat on products.
2. Gather equipment and tools.
3. Prepare area to dip (clear/clean surfaces)
4. Fill container with enough water to dip entire product.



Hydro Dipping Process & Demonstration:

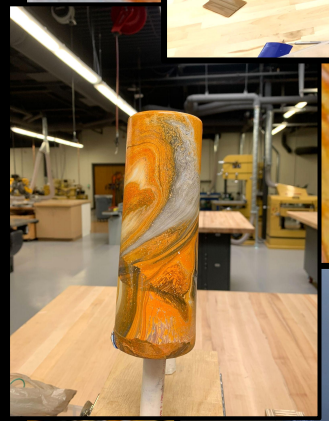
Steps continued:

5. Choose spray paint colors (3-5 colors).
6. Start by spraying in the middle of the container, then randomize.
7. Create patterns in water with tools.
8. Survey size and dip according to students thoughts (straight, turn, roll, etc.).
9. Swirl to remove excess paint to sides.

Hydro Dipping Process & Demonstration:

Steps continued:

10. Let water drip off and blow off with light air.
11. Look at pattern, re-dip if necessary.
12. Place on rack or drying surface and let cure.
13. Add any additional bling!
13. Finish (acrylic, epoxy, etc.).



Questions?

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