Glass Campus

Cavity Casting
Millenium Falcon

A cavity casting is a reverse casting where the object to be cast is removed to be left as a negative space.

MATERIALS:

Rubber Mold for casting
Plaster/silica casting compound
Scrap black glass – about 4 oz
Scrap clear glass – about 12 oz
Silver mica – about ½ tspn
4 – 6" tiles for kiln dams
4 – kiln posts to brace the kiln dams

CASTING COMPOUND.
50/50 mix of pottery plaster and silica flour. This is an excellent compound to making molds or castings. It's cheap, easy to work with, survives high fire temperatures and glass won't stick to it so you don't need kiln wash.

MOLD
This project was done a rubber mold bought at a thrift shop but could be done in any rubber or plastic mold.

1. Filling the mold with P/S
Casting compound mixed to about the consistency of pancake batter and spooned into the mold.

2. Removing the P/S from the mold.
Let set for 24 hours or mold until the casting compound is full hardened then remove the casting from the mold.

3. Kiln dam box in kiln.
Build a box with kiln dams to contain the casting and brace it with kiln posts to keep them from moving during the firing.

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4. P/S casting in mold box
Place the plaster casting in the center of the box.

5. Pouring in black frit
Pour in black frit to about 6mm depth. You could use any grit frit or scraps of black glass. Be sure you put in enough it will form a solid layer of black with any open spaces after the melt.

6. Sifting on silver mica
Sift or sprinkle silver mica to look like stars. Silver was used in this project but you could use any color you prefer.

7. Filling the mold with clear glass scraps
Fill the box mold with clear glass scraps or frit.

8. In kiln after firing.
Fire to a full fuse to melt everything together.

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9. Removing ceramic dams
Remove the kilns posts and ceramic dams

10. Project out of kiln.
Remove the finished casting from the kiln.

11. Removing P/S casting
Remove the casting compound from the casting. You will probably have to chip it out in pieces.

12. Cleaning up edges from casting
Sand off the rough edges on the underside.

13. Coldworking outside edges
Coldworking the outside edges of the casting. It's being done here on a wet belt sander but if you don't have one you can do it by hand or on a lap machine.

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14. Finished project

Bubbles. Because this casting was done with scrap bits of glass a lot of small bubbles are trapped in it. I think this add to the appearance.

Frit. I did this project with black frit but you could have done it with bits of scrap black glass. If you do casting with scrap pieces of glass you should avoid using large pieces. Large pieces encourage creating large bubbles. When I use scraps I cut the pieces to about the size of a dime or the size of your thumbnail.

Mica. I used silver frit for this project but other colors work well. Just be careful you use a color that survives the full fuse firing

Edge view polished sides.

Bottom View showing open cavity

Firing Schedule - Fahrenheit

SEG	RAMP °/hr	TEMP °F	HOLD minutes
1	500	1450	30
2	9999	960	180
3	150	300	0

Firing Schedule - Celsius

SEG	RAMP °/hr	TEMP °C	HOLD minutes
1	260	790	30
2	9999	515	180
3	65	150	0