

## TERRA RINGS

### Concept statement

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These rings attempt to uncover the extended relations of materials. It is a polemic against the *hylomorphic* style of design and production that conceptually separates form and material. We react against this style that draws the eye towards surfaces and hides the interrelated, complex and often polluting, burdensome materialities of real world production.

This is not just a story of ecological effect, but ecological origin: so much of our material resources come from animal and plant based sources. Concrete comes from limestone that comes from the crushed bodies of sea animals, sedimented into rock over millions of years. Spray paints and plastics derive from petrochemicals, extracted from petroleum that is refined from crude oil, made from millions of years of dinosaur bones, ancient planktons and plants, compressed underground. What we consider the common and artificial materials of the built environment truly originate in the life and death of animals.

Processed materials should not be divorced from their vibrant origins. We propose our task is to sensitise the ecology of extended material relations and bring its chaotic qualities into perception through form. The rings intends to create sensory links between the raw forms of materials and their manufactured products. The latter are ready in the form of refined metals, paints, resins, concrete and dyes typical to our practice. Obtaining and using their precursors – ores, rocky minerals, and fossil fuels of various types, all of which have plant and animal origins – requires a little more effort. We take advantage of small scientific samples, shipped to us from around the world, thanks to fossil fuels.



## **Materials**

*The materials on this list are suffixed with superscript numbers that refer to footnotes detailing the composite materials, to the elemental level when known. Please always include the associated footnotes when listing the materials.*

- A** Concrete<sup>1</sup>, epoxy resin<sup>2</sup>, brass<sup>3</sup>, paint<sup>4</sup>, neodymium magnets<sup>5</sup>
- B** Concrete<sup>1</sup>, iron oxide, epoxy resin<sup>2</sup>, brass<sup>3</sup>, paint<sup>4</sup>, neodymium magnets<sup>5</sup>
- C** Concrete<sup>1</sup>, iron oxide, epoxy resin<sup>2</sup>, sterling silver<sup>6</sup>, neodymium magnets<sup>5</sup>
- D** Oil sandstone (unknown source)<sup>7</sup>, epoxy resin<sup>2</sup>, paint<sup>4</sup>, brass<sup>3</sup>, neodymium magnets<sup>5</sup>
- E** Epoxy resin<sup>2</sup>, polyester resin<sup>8</sup>, sterling silver<sup>6</sup>, neodymium magnets<sup>5</sup>
- F** Concrete<sup>1</sup>, marble powder<sup>9</sup>, sterling silver<sup>6</sup>, neodymium magnets<sup>5</sup>
- G** Calcite crystal cluster<sup>10</sup> (from Bulgaria), epoxy resin<sup>2</sup>, paint<sup>4</sup>, brass<sup>3</sup>, neodymium magnets<sup>5</sup>
- H** Concrete<sup>1</sup>, epoxy resin<sup>2</sup>, paint<sup>4</sup>, brass<sup>3</sup>, neodymium magnets<sup>5</sup>
- I** Heavy crude oil<sup>11</sup> (from Pennsylvania), borosilicate glass<sup>12</sup>, epoxy resin<sup>2</sup>, sterling silver<sup>6</sup>, brass, paint<sup>4</sup>, neodymium magnets<sup>5</sup>
- J** Epoxy resin<sup>2</sup>, sterling silver<sup>6</sup>, neodymium magnets<sup>5</sup>
- K** Polyurethane<sup>13</sup>, paint<sup>4</sup>, brass<sup>3</sup>, neodymium magnets<sup>5</sup>
- L** Limestone<sup>10</sup> (from Spain), polyester resin<sup>8</sup>, epoxy resin<sup>2</sup>, steel, brass<sup>3</sup>, paint<sup>4</sup>, neodymium magnets<sup>5</sup>
- M** Optical calcite crystal<sup>10</sup> (from Brazil), sterling silver<sup>6</sup>, epoxy resin<sup>2</sup>, neodymium magnets<sup>5</sup>
- N** Epoxy resin<sup>2</sup>, paint<sup>4</sup>, brass<sup>3</sup>, neodymium magnets<sup>5</sup>
- O** Light crude oil<sup>11</sup> (from Ecuador), borosilicate glass<sup>12</sup>, epoxy resin<sup>2</sup>, sterling silver<sup>6</sup>, neodymium magnets<sup>5</sup>

<sup>1</sup> cement<sup>14</sup>, sand (various granular minerals, commonly silica and calcium carbonate<sup>10</sup>) and aggregate (various rocks and minerals from an unknown source)

<sup>2</sup> polyepoxide, a cross-linked thermosetting polymer (polymerised

ethylene oxide, a silver catalysed ethylene<sup>15</sup>)

<sup>3</sup> alloy of copper and zinc, with additional unknown elements including arsenic, phosphorus, aluminium, manganese, and silicon.

<sup>4</sup> unknown petrochemical<sup>11</sup> polymer colourants, plus some metals, with or without a hydrocarbon<sup>11</sup> propellant.

<sup>5</sup> alloy of neodymium, iron and boron

<sup>6</sup> alloy of silver and copper, with additional trace elements that may include germanium, zinc, platinum, silicon and boron

<sup>7</sup> petroleum<sup>11</sup> and sand (various granular minerals, commonly silica and calcium carbonate<sup>10</sup>)

<sup>8</sup> a synthetic thermosetting resin made from polyol<sup>16</sup>, typically ethylene glycol (ethylene<sup>15</sup> reacted with water), reacted with a dibasic acid (probably phthalic acid<sup>17</sup>)

<sup>9</sup> recrystallised carbonate minerals (commonly calcite<sup>10</sup> or dolomite] with other impurities (such as clays, silts, sands, iron oxides, or chert) metamorphosed from millennia of geological heat, pressure and chemical reaction

<sup>10</sup> calcium carbonate (shells, corals and the bodies of other sea animals composited into rock over half a billion years or so)

<sup>11</sup> fossil fuel (products derived from the bodies of plants, animals and other living organisms, anaerobically decomposed over millions of years underground)

<sup>12</sup> glass made from silica, oxidised boron, lime<sup>10</sup> and soda ash (sodium carbonate, either mined or industrially produced via chemical reactions of materials such as sea salt, coal, brine, ammonia, limestone and other substances)

<sup>13</sup> isocyanate (treated amines extracted from ammonia<sup>18</sup> and

phosgene<sup>19</sup>) and some kind of polyol resin<sup>16</sup> with dimethyl ether (dehydration of methanol<sup>20</sup>) with or without a hydrocarbon propellant<sup>11</sup>

<sup>14</sup> cooked and crushed limestone<sup>10</sup> with a pozzolanic material (probably fly ash, a coal<sup>16</sup> fired power plant byproduct)

<sup>15</sup> fractionally distilled petrochemical hydrocarbon<sup>11</sup>

<sup>16</sup> an alcohol with multiple hydroxyl groups (likely petrochemical origin<sup>11</sup>)

<sup>17</sup> oxidised naphthalene, a coal tar distillate<sup>11</sup>

<sup>18</sup> a naturally occurring substance now most commonly sourced as a byproduct of coal-fired power plants<sup>11</sup>

<sup>19</sup> an industrial reagent made from carbon monoxide and chlorine gas

<sup>20</sup> synthetic gas made from a hydrocarbon feedstock, either natural