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6. Topology

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Pasting in multiple categories

A multiple category arises when several different categories have the same set of morphisms in a coherent way. I consider a particularly well-behaved type called an ω-category, which is the infinite-dimensional analogue of a strict n-category. These ω-categories can often be represented by abstract cell complexes called pasting diagrams, and in many cases they can be represented by genuine CW complexes. I characterise the cell complexes associated to ω-categories, and I give detailed descriptions of some particularly important examples. These examples elucidate the structure of tensor products.