



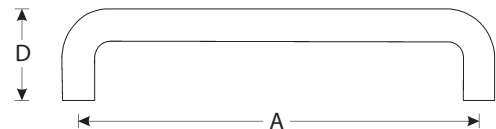
## Architectural Ironmongery

This is one of a series of design guides provided to assist in the specification and manufacture of key touch surface components for use in healthcare and other environments where hygiene is important. Copper alloys reduce contamination by destroying harmful bacteria, fungi and viruses, thus reducing the risk of transmission of infection.

### 2. Pull handle or D handle

- ◆ If replacing existing door hardware consider matching the dimensions or discuss upgrading the design with staff.
- ◆ The **finger gap** - between the door and handle – should be no less than approximately 45 mm to allow the fingers to close around the handle.
- ◆ The **diameter** should provide sufficient strength and be comfortable to the hand.
- ◆ The **length** between fixing centres should be greater than 150 mm. Common sizes are:

	Fixing centres A (mm)	Diameter D (mm)
a	150	19
b	225	19, 22, 25, 25.4
c	305	19, 22, 25, 25.4, 32
d	400	22, 25, 25.4, 32
Size and weight of handle will have an effect on cost as well as strength and safety. Ideally a balance should be struck to ensure all needs are met.		



- ◆ The **material** chosen may be in the form of solid extruded bar or tube depending upon fabrication capabilities.
- ◆ The **colour** should have sufficient contrast with the door material and be highly visible. Colours of readily available alloys are indicated below. The following is not an exhaustive list of antimicrobial alloys and others are under development; take advice from CDA or your supplier.

	Pink or Red			Gold	Brown		Yellow			Silver	
Name	Copper	Copper	Gilding Metal	Gilding Metal	Phosphor Bronze	Phosphor Bronze	Brass	Brass	Brass	Nickel Silver	Copper Nickel
BS	C106	C101	CZ101	CZ102	PB102	PB104	CZ106	CZ108	CZ121	NS106	CN102
ISO	CuDHP	CuETP	CuZn10	CuZn15	CuSn5	CuSn8	CuZn30	CuZn37	CuZn39Pb3	CuNi18Zn20	CuNi10Fe1Mn
EN	CW024A	CW004A	CW501L	CW502L	CW451K	CW453K	CW505L	CW508L	CW614N	CW409J	CW352H
UNS	C12200	C11000	C22000	C23000	C51000	C52100	C26000	C27200	C38500	C79200	C70600

- ◆ **Hardness**, which indicates ductility or formability, should be suitable for your fabrication requirements; contact CDA or your supplier and see our separate guide.
- ◆ **Finishing** by polishing is recommended; brushing or bead blasting may be considered. **DO NOT** use any oil, lacquer or wax treatment as this will counter the inherent antimicrobial characteristics of the metal. **DO NOT** plate or electroplate with metal other than copper.
- ◆ **Legislation:** always verify your design meets local disability access, building or engineering standards e.g. HTM 59 or EN 1906.