

APPLICATIONS – MATERIALS & FINISHES BY PART TYPE

meviy enables rapid-turnaround precision parts for robotics and automation manufacturers. Aluminium grades keep moving mass low at the robot wrist; engineering plastics such as PEEK serve non-marking and non-conductive contact applications; stainless steel covers harsh cell environments. Sheet metal serves the structural and enclosure needs of automation cells. Materials and finishes are grouped below by the component type they serve.

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End-of-Arm Tooling (EOAT) Components — Milling (MP)


End-of-Arm Component, MP, PEEK

MATERIALS	FINISHES & FEATURES
• **Al EN AW-7075 (MP)** Lightweight and stiff. Keeps moving mass at the robot wrist low — critical for cycle time and payload budget.	• **Hard Anodised (clear) (for Aluminium)** Surface hardness comparable to steel. Wear-resistant on Aluminium gripper fingers that contact workpieces repeatedly.
• **Al EN AW-6061 (MP)** For lower-load gripper bodies and vacuum manifold blocks where the full strength of 7075 is not needed.	• **Anodised (black) (for Aluminium)** Low reflectance — important where vision systems are operating in the same cell.
• **PEEK (MP)** Non-marking, electrically insulating, chemical resistant. For jaw inserts gripping sensitive, painted or delicate surfaces where metal contact is not acceptable.	• **Electroless Nickel (for Aluminium & Steel)** Even coating on complex manifold geometry. Chemical resistant for vacuum and pneumatic components.
• **Steel EN 1.2379 / 1.2344 (MP)** For high-wear gripper inserts handling abrasive or heavy workpieces. Can be hardened to HRC 50-63.	• **Hardening AQ (for Steel)** HRC 50-63, 14-day ship. Wear inserts stay accurate over high-cycle production runs.
	• **Angled Holes AQ (for Aluminium & Steel)** Complex gripper geometries with off-axis pneumatic channels now auto-quoted.
	• **+/-0.01 mm Tolerance (for Aluminium & Steel)** Jaw alignment and workpiece contact accuracy directly affects pick reliability.

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Robot Flange & Tool Change Adapters — Milling (MP) / Turning (TP)



Tool Change Adapter, TP, AW-7075, Hard Anodised

MATERIALS	FINISHES & FEATURES
• **Al EN AW-7075 (MP & TP)** Industry standard for flange adapter plates. Minimises added mass at the wrist — critical for payload budget and TCP accuracy.	• **Hard Anodised (clear) (for Aluminium)** Wear-resistant on aluminium flange faces that engage and disengage repeatedly in tool change cycles. Industry standard finish on robot adapter plates.
• **SS EN 1.4301 / 1.4401 (MP & TP)** For adapters in harsh environments — welding cells, foundries, washdown areas. Corrosion and chemical resistant.	• **Anodised (black) (for Aluminium)** Low reflectance for adapters in vision-guided cells.
• **Steel EN 1.2379 (MP & TP)** For high-load adapters on heavy payload robots. Can be hardened for wear-critical contact faces.	• **Electroless Nickel (for Aluminium & Steel)** Even coating on complex adapter geometry. Corrosion resistant in harsh cell environments.
	• **GD&T Tolerancing (All Materials)** Concentricity and perpendicularity between flange faces auto-quoted. Essential for TCP accuracy after tool change.
	• **+/-0.01 mm Tolerance (for Aluminium & Steel)** Flange interface accuracy directly affects robot repeatability after tool change.

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Custom Control Box Enclosures — Sheet Metal (SM) / Welded Sheet Metal



Control Box Enclosure, SM, EN 1.0330, Powder Coating

MATERIALS	FINISHES & FEATURES
• **Steel EN 1.0330 (SM / Welded SM)** Standard laser-cut and bent sheet steel for enclosure bodies. Custom cutout patterns per I/O configuration, display size and button layout.	• **Powder Coating (for Steel — SM only)** Durable, chemical-resistant finish. RAL 7032 light grey is the automation industry standard. 15 colours available for colour-coding per cell or function.
• **Steel EN 1.0038 (SM / Welded SM)** For heavier enclosure frames and welded mounting brackets requiring structural rigidity.	• **Electroless Nickel (for Steel)** For enclosures in chemically aggressive environments where powder coating is not sufficient.
• **SS EN 1.4301 (SM)** For enclosures in washdown, food-grade or corrosive environments where standard steel would corrode.	• **Black Oxide (for Steel)** Zero coating thickness. For internal mounting brackets inside the enclosure where dimensions must be maintained.
	• **Trivalent Chromate (for Steel)** Thin corrosion-resistant base layer. Often applied before powder coating for additional protection in outdoor or humid environments.