

Technical Datasheet

DIN 7981 Pan Head Phillips Self-Tapping Screw

1. Other Common Names

- DIN 7981 pan head tapping screw
- Phillips pan head sheet metal screw
- Pan head self-tapping screw (cross recessed)
- ISO 7049 pan head tapping screw
- Cross drive pan head screw for sheet metal
- Pan head ST screw
- Pan head B type tapping screw

2. Features

- Head style: Pan head, rounded profile for surface mounting
- Drive: Phillips cross recess (ISO 8764-1 compliant)
- Thread type: Self-tapping (forms its own mating thread)
- Materials: Hardened carbon steel (C1022), stainless steel (A2, A4)
- Surface finishes: Zinc plated, nickel plated, black oxide, passivated stainless steel
- Standard: DIN 7981 ≈ ISO 7049

3. Mechanical Properties

Property	Value Range	Notes
Tensile Strength	≥ 700 N/mm ² (C-Steel), ≥ 650 N/mm ² (A2)	Depending on material
Breaking Torque	0.5 – 8.0 Nm	Based on screw size
Shear Load	500 – 2,500 N	Depending on diameter
Hardness	560 – 720 HV	Case-hardened
Drilling Capacity	Up to 2.0 mm	Sheet metal

4. Typical Size Range

Diameter (d)	Length (mm)	Head Ø (dk)	Drive
2.2	4 – 25	4.2 mm	PH0
2.9	6 – 25	5.6 mm	PH1
3.5	6 – 50	7.0 mm	PH2
3.9	6 – 50	7.5 mm	PH2
4.2	6 – 50	8.0 mm	PH2
4.8	8 – 60	9.5 mm	PH2
5.5	10 – 70	11.0 mm	PH3
6.3	12 – 75	12.5 mm	PH3

5. Applications

- Electrical boxes, HVAC brackets, enclosures
- Thin sheet metal assemblies
- Light alloy and plastic housings
- Furniture, electronics, metal panels
- Visible installations where pan head profile is acceptable

6. Key Takeaways

- DIN 7981 → Pan head Phillips self-tapping screw
- Also known as ISO 7049 pan head tapping screw
- Strong, versatile, corrosion-protected with zinc or stainless steel
- Widely used in sheet metal, furniture, HVAC, and electronics