

# ISO 18669-1:2021 (E)

## Internal combustion engines — Piston pins — Part 1: General specifications

---

### Contents

	Foreword
1	Scope
2	Normative references
3	Terms and definitions
3.1	General
3.2	Geometrical and manufacturing features of piston pins
3.2.1	Bore types
3.2.2	Outside-edge configurations
3.2.3	Other features
4	Symbols
5	Nomenclature
5.1	Outside, inside and end features
5.2	Outside edge and inside chamfer configurations
5.2.1	Chamfered outside-edge configuration
5.2.2	Double-chamfered outside-edge configuration
5.2.3	Radiused outside-edge configuration
5.2.4	Chamfer-locking outside-edge configuration
5.3	Outside-edge drop-off configuration
6	Codes
7	Designation of piston pins
7.1	Designation elements and order
7.1.1	Mandatory elements
7.1.2	Additional elements
7.2	Designation examples
8	Piston pin types, dimensions and tolerances
8.1	Manufacturing types
8.2	Dimensions and tolerances
8.2.1	Outside diameter and form and location tolerances
8.2.2	Inside diameter tolerance
8.2.3	Length (l1) and gauge length (l5) tolerances
8.2.4	Outside-edge form
8.2.5	Inside-edge profile
8.2.6	Tapered bore dimensions
8.2.7	Centre-web dimensions (see Figure 17)
8.2.7.1	Centre-web length (l4)
8.2.7.2	Centre-web diameter (d4)
9	Material and heat treatment
9.1	Type of material
9.2	Core hardness   core strength
9.3	Carburised and nitrided case depth
9.4	Surface hardness
9.5	Volume change
10	Common features
10.1	Roughness of surfaces

- 10.1.1 Roughness of machined surfaces
- 10.1.2 Roughness of coated surfaces
- 10.1.3 Roughness of extruded and seamless drawn bore surfaces
- 10.2 Marking of piston pins
- 10.3 Miscellaneous
  - 10.3.1 Cleanliness
  - 10.3.2 Corrosion protection
  - 10.3.3 Residual magnetism
  - 10.3.4 Packaging
- 11 Quality requirements
  - 11.1 Material characteristics
    - 11.1.1 Decarburisation
    - 11.1.2 Cementite network
    - 11.1.3 Nitride coating
    - 11.1.4 Grinder burn
  - 11.2 Material defects
    - 11.2.1 Cracks
    - 11.2.2 Forming streaks
      - 11.2.2.1 Circumferential
      - 11.2.2.2 Axial
  - 11.3 Visual defects

Page count: 26