



STANDARDS REFERENCE GUIDE

The complete reference for fastener and fitting standards —
DIN · ISO · ASME · ASTM · BS EN · API · IS · JIS

2025 – 2026 EDITION

DIN Deutsche Institut für Normung — Germany

ASME American Society of Mechanical Engineers

BS EN British Standard / European Norm

IS Bureau of Indian Standards

ISO International Organization for Standardization

ASTM ASTM International — Materials & Testing

API American Petroleum Institute

JIS Japanese Industrial Standards

sales@rrhydraulics.com

+91 831 879 1454 · www.rrhydraulics.com · Thane, Maharashtra, India

DIN Standards — Bolts, Screws, Nuts & Washers

Deutsche Institut für Normung · Germany · Widely adopted worldwide as global baseline

DIN No.	Product Description	Thread / Size Range	Head / Drive Type	Property Class	Notes / Equivalent
DIN 931	Hex Head Bolt — Partial Thread	M5 – M100	Hex head (AF)	4.6 to 10.9	ISO 4014, ASME B18.2.1
DIN 933	Hex Head Bolt — Full Thread	M1.6 – M100	Hex head (AF)	4.6 to 10.9	ISO 4017
DIN 938	Stud Bolt — one end	M5 – M52	— (both ends thre	4.6 to 10.9	Flange & equipment
DIN 939	Stud Bolt — tap end	M5 – M52	— (both ends thre	4.6 to 10.9	ISO 4033
DIN 6921	Hex Flange Bolt	M5 – M20	Hex flange head	8.8 / 10.9	With integrated flange washer
DIN 580	Eye Bolt — metric	M6 – M64	Circular eye head	4.6	For lifting & rigging
DIN 444	Eye Bolt — with nut	M6 – M36	Open eye	4.6	Forged lifting eye
DIN 603	Carriage Bolt (Cup-Sq.)	M5 – M20	Round head + sq.	4.6 / 8.8	Timber & structural
DIN 912	Socket Cap Screw	M1.6 – M36	Hex socket (Allen)	8.8 / 10.9 / 12.	ISO 4762
DIN 7991	Socket CSK Screw	M3 – M20	Hex socket, flat 90	8.8 / 10.9 / 12.	ISO 10642
DIN 916	Hex Socket Set Screw (cup)	M3 – M24	Hex socket	45H / 14H	Cup point, hardened
DIN 914	Hex Socket Set Screw (cone)	M3 – M20	Hex socket	45H	Cone point
DIN 7985	Cross-Head Machine Screw	M2 – M10	PH / PZ drive	4.8	ISO 7045
DIN 965	CSK Cross-Head Screw	M2 – M10	PH / PZ drive	4.8	ISO 7046
DIN 7981	Self-Tapping Screw	2.9 – 6.3 mm	PH / PZ (pan head	ST / BN	Types A/B/AB
DIN 7504	Self-Drilling (Tek) Screw	3.5 – 6.3 mm	PH / PZ	High tensile	Points #1–#5
DIN 934	Hex Nut — Standard	M1.6 – M100	Hex (AF) — plain	5 / 8 / 10	ISO 4032
DIN 980	Hex Lock Nut — all-metal	M4 – M36	Hex (AF)	8 / 10	ISO 7042, prevailing torque
DIN 985	Hex Lock Nut — nylon insert	M4 – M36	Hex (AF)	6 / 8 / 10	ISO 7042 equiv.
DIN 6334	Hex Coupling Nut (long)	M4 – M36	Long hex (AF)	8	Joining two threaded rods
DIN 1587	Cap Nut (acorn)	M4 – M20	Hex (AF)	6	Decorative end cover
DIN 315	Wing Nut	M4 – M20	Wing (hand-tight)	—	Tool-free tightening
DIN 125	Flat Washer	M3 – M100	Plain flat	—	ISO 7089 (A) / 7090 (C)
DIN 9021	Large OD Flat Washer	M5 – M36	Large plain flat	—	ISO 7093
DIN 127	Spring (Split) Lock Washer	M3 – M48	Split / helical	—	ISO 7090
DIN 6798	External Toothed Washer	M3 – M30	Star teeth outside	—	Anti-vibration
DIN 6799	E-Clip / Push-On Ring	1 – 100 mm shaft	Snap fit	—	Quick-fit retaining ring

ISO Standards — Fasteners & Fittings

International Organization for Standardization · Globally harmonised fastener specifications

ISO Number	Product Description	Size / Thread	DIN Equivalen	ASME Equival	Scope
ISO 4014	Hex Bolt — Partial Thread	M1.6–M100	DIN 931	B18.2.1	Standard hex bolts, full nut engagement
ISO 4015	Hex Bolt — short grip	M8–M64	DIN 931 var.	B18.2.1	Reduced grip length
ISO 4016	Hex Bolt — product grade C	M5–M64	DIN 931	—	Coarser tolerance, structural
ISO 4017	Hex Bolt — Full Thread	M1.6–M100	DIN 933	B18.2.1	Fully threaded hex bolts
ISO 4018	Hex Bolt — Full Thread Gr.C	M5–M64	DIN 933	—	Structural grade C
ISO 4762	Socket Head Cap Screw	M1.6–M36	DIN 912	B18.3	Hex socket, most common cap screw
ISO 7045	Pan Head Machine Screw	M2–M10	DIN 7985	B18.6.3	PH/PZ cross recess
ISO 7046	CSK Machine Screw	M2–M10	DIN 965	B18.6.3	Countersunk 90°, PH/PZ
ISO 10642	Socket CSK Cap Screw	M3–M20	DIN 7991	B18.3	Flat head, hex socket
ISO 8676	Hex Bolt Fine Thread FT	M8–M36	DIN 961	—	Fine pitch hex bolt
ISO 4032	Hex Nut — Style 1	M1.6–M100	DIN 934	B18.2.2	Standard hex nut, chamfered
ISO 4033	Hex Nut — Style 2 (thick)	M5–M100	DIN 934 thick	B18.2.2	High nut, coupling use
ISO 4035	Hex Thin Nut — Style 0	M1.6–M100	DIN 439	—	Low profile, locking combination
ISO 7042	Prevailing Torque Hex Nut	M4–M36	DIN 980	B18.16.6	All-metal locking nut
ISO 7043	Hex Nut + Nylon Insert	M4–M36	DIN 985	—	Prevailing torque, non-metallic insert
ISO 4161	Hex Flange Nut	M5–M20	DIN 6923	—	Integrated washer flange
ISO 7089	Flat Washer — Grade A	M1.6–M100	DIN 125A	B18.22.1	Machined, tight tolerance
ISO 7090	Flat Washer — chamfered	M5–M100	DIN 125B	B18.22.1	Chamfered on one side
ISO 7091	Flat Washer — Grade C	M5–M100	DIN 126	—	Pressed, structural grade
ISO 7093	Large Flat Washer	M5–M36	DIN 9021	—	Large OD load distribution
ISO 7094	Extra-large Flat Washer	M5–M36	DIN 9021	—	Timber construction
ISO 8734	Cylindrical Dowel Pin	Ø1–Ø50 mm	DIN 6325	—	Ground, hardened, m6 tolerance
ISO 1234	Split Cotter Pin	Ø0.6–Ø13 mm	DIN 94	—	Castle nut locking
ISO 888	Threaded Rod — Full Thread	M3–M100	DIN 975	B18.31	All-thread stud, rod
ISO 7005	Metallic Flanges	DN15–DN600	DIN 2573-2636	B16.5	PN series flanges
ISO 3419	Butt Weld Fittings	DN15–DN600	DIN 2605-2617	B16.9	Elbows, tees, reducers

ASME / ANSI Standards — Fasteners, Flanges & Fitting

American Society of Mechanical Engineers · American National Standards Institute

FASTENERS — ASME B18 Series

Standard No.	Product Description	Size Range	Thread System	Key Notes
ASME B18.2.1	Hex Bolts & Hex Cap Screws	¼" – 4"	UNC / UNF	Inch series, grades 2/5/8
ASME B18.2.2	Hex Nuts — square & hex	¼" – 4"	UNC / UNF	Heavy hex also covered
ASME B18.3	Socket Head Cap Screws	#0 – 4"	UNC / UNF	Allen key drive, high strength
ASME B18.5	Round Head Bolts	¼" – 1"	UNC	Carriage bolt, ribbed neck
ASME B18.6.3	Machine Screws & Nuts	#0 – ¾"	UNC / UNF	All head styles, inch
ASME B18.16.6	Prevailing Torque Nuts	¼" – 2"	UNC / UNF	All-metal lock nut
ASME B18.21.1	Lock Washers	#2 – 3"	—	Split, toothed, external/internal
ASME B18.22.1	Plain Washers (inch)	#0 – 3"	—	Narrow, regular, wide series
ASME B18.29.1	Hex Socket Set Screws	#0 – 2"	UNC / UNF	All point types
ASME B18.31	Threaded Rods & Studs	¼" – 4"	UNC / UNF	Full-thread & tap-end

PRESSURE VESSELS, FLANGES & PIPING — ASME B16 Series

Standard No.	Product Description	Size Range	Thread System	Key Notes
ASME B16.5	Pipe Flanges & Flanged Fittings	½" – 24" (NPS)	—	Class 150–2500 · RF/RTJ/FF
ASME B16.9	Factory-Made Wrought BW Fittings	½" – 48" (NPS)	—	Elbows, tees, reducers, caps
ASME B16.11	Forged Fittings — SW & Threaded	½" – 4" (NPS)	NPT / SW	Class 3000/6000/9000
ASME B16.20	Ring Joint Gaskets for Flanges	½" – 24" (NPS)	—	Oval / octagonal RTJ profiles
ASME B16.21	Gaskets for Pipe Flanges	½" – 24" (NPS)	—	Full-face & ring gaskets
ASME B16.25	Butt-Welding Ends	—	—	End preparation for BW fittings
ASME B16.36	Orifice Flanges	1" – 16" (NPS)	—	Class 300–2500
ASME B16.47	Large-Diameter Flanges	26" – 60" (NPS)	—	Class 75–900 · Series A & B
ASME B16.48	Steel Blanks (Spectacle Blinds)	½" – 24" (NPS)	—	Class 150–2500
ASME B31.3	Process Piping — Design Code	All sizes	—	Material selection, wall thickness

ASTM Material Standards — Fastener Bolting & Fittings

ASTM International · Material specifications for chemical composition, mechanical properties & heat treatment

STUD BOLTS, BOLTS & NUTS — ASTM A193 / A194 Series

ASTM Spec.	Grade	Material / Alloy	Min. Tensile	Min. Yield	Primary Use
ASTM A193	B7	Cr-Mo alloy (4140/4142) Q&T	125 ksi	105 ksi	Flange stud bolts — general
ASTM A193	B7M	Cr-Mo alloy — NACE H2S so	125 ksi	105 ksi	Sour service — NACE MR0175
ASTM A193	B8	SS 304 — austenitic	75 ksi	30 ksi	Stainless stud bolts
ASTM A193	B8M	SS 316 — austenitic	75 ksi	30 ksi	Marine & chemical service
ASTM A193	B8C	SS 347 — Nb stabilised	75 ksi	30 ksi	High-temperature SS service
ASTM A193	B8T	SS 321 — Ti stabilised	75 ksi	30 ksi	High-temperature welded
ASTM A193	L7	Cr-Mo alloy — low temperatu	125 ksi	105 ksi	Cryogenic / sub-zero service
ASTM A194	2H	Med carbon steel	—	—	Hex nut — B7 stud pairing
ASTM A194	2HM	Med carbon — NACE	—	—	Hex nut — B7M sour service
ASTM A194	8	SS 304 nut	—	—	Pairs with A193 B8
ASTM A194	8M	SS 316 nut	—	—	Pairs with A193 B8M

STRUCTURAL BOLTS & ANCHOR RODS — ASTM F & A Specs

ASTM Spec.	Grade	Material / Alloy	Min. Tensile	Min. Yield	Primary Use
ASTM A307	Grade A	Low carbon steel	60 ksi	—	Anchor bolts — light duty
ASTM A307	Grade B	Low carbon steel	60 ksi	—	Flanged joints — low pressure
ASTM A325	Type 1	Med carbon steel	120 ksi	92 ksi	Structural steel connections (imperial)
ASTM A490	Type 1	Alloy steel	150 ksi	130 ksi	High-strength structural connections
ASTM F1554	Grade 36	Low carbon rod	58 ksi	36 ksi	Anchor rod — concrete embedment
ASTM F1554	Grade 55	Med carbon rod	75 ksi	55 ksi	Anchor rod — stronger concrete
ASTM F1554	Grade 105	Alloy rod	125 ksi	105 ksi	High-strength anchor rod
ASTM A574	—	Alloy steel (Gr 10.9 equiv)	180 ksi	—	Socket head cap screw material

PIPE FITTINGS & FLANGES — ASTM A234 / A403 / A182 Series

ASTM Spec.	Grade	Product Form	Material	Key Property
ASTM A234	WPB	Butt weld fittings	Carbon steel	General purpose — ambient temperature
ASTM A234	WP11	Butt weld fittings	1¼Cr-½Mo alloy steel	High temp — 550°C service
ASTM A234	WP22	Butt weld fittings	2¼Cr-1Mo alloy steel	Refinery service — 600°C
ASTM A234	WP91	Butt weld fittings	9Cr-1Mo-V (P91)	Power plant — 650°C
ASTM A403	WP304/304L	Butt weld fittings	SS 304 / 304L	Austenitic — corrosion service
ASTM A403	WP316/316L	Butt weld fittings	SS 316 / 316L	Marine, chemical, offshore
ASTM A182	F304/F316	Forged flanges & fitting	SS 304 / 316	Forged SW & threaded fittings

BS EN / European Standards

British Standard · European Norm · Harmonised across EU member states

STRUCTURAL BOLTING — EN 14399 Series (High-Strength)

Standard	Description	Bolt Grade	Nut Grade	Washer	Application
EN 14399-1	HV/HR Structural bolting — general reqts	—	—	—	Overarching standard
EN 14399-2	Suitability test for preloading	—	—	—	Testing method
EN 14399-3	System HR — hex bolts & nuts	8.8 / 10.9	8 / 10	—	Bridges, steelwork
EN 14399-4	System HV — hex bolts & nuts	10.9	10	—	High-strength preloading
EN 14399-5	Plain washers for HR	—	—	C300 / C350	Hardened, HR system
EN 14399-6	Plain washers with chamfer for HV	—	—	C300 / C350	HV system washers
EN 14399-7	HR countersunk bolts	8.8 / 10.9	8 / 10	—	Flush-head structural
EN 14399-8	HV hex fit bolts	10.9	10	—	Close-tolerance bolt holes
EN 14399-10	System HRC — bolt-nut-washer	10.9	10	—	Torque shear system

GENERAL FASTENERS — BS EN / ISO Harmonised Series

Standard	Description	Replaces (DIN)	Size Range	Key Scope
BS EN ISO 4014	Hex Bolt — Partial Thread	DIN 931	M1.6–M100	Product grades A & B
BS EN ISO 4017	Hex Bolt — Full Thread	DIN 933	M1.6–M100	Product grades A & B
BS EN ISO 4032	Hex Nut — Style 1	DIN 934	M1.6–M100	Product grades A & B
BS EN ISO 4762	Socket Head Cap Screw	DIN 912	M1.6–M36	Grade 8.8 / 12.9
BS EN ISO 7089	Flat Washer — Grade A	DIN 125A	M1.6–M100	Hardness 140 HV
BS EN ISO 7090	Flat Washer — chamfered	DIN 125B	M5–M100	Chamfer one face
BS EN 1090	Execution of steel structures	—	All	CE marking requirements
PED 2014/68/EU	Pressure Equipment Directive	—	All	CE marking for pressure
BS 4190	Black Hexagon Bolts & Nuts	BS equiv.	M5–M100	Structural, grade 4.6/8.8
BS 3692	Precision Hex Bolts & Nuts	BS equiv.	M5–M100	Precision grade A

API, NACE, MSS & Speciality Industry Standards

Oil & Gas · Subsea · Chemical · Valve & Fitting industry standards

API — AMERICAN PETROLEUM INSTITUTE

Standard	Title	Covers	Key Specification
API 6A	Wellhead & Christmas Tree Equipment	Flanges — 2" to 21" — 2000 to 15000 PSI	Material grades DD/EE/FF/HH
API 6B	Flanges for Wellheads	6B flanges 2" to 13 1/2"	Ring joint RTJ facing required
API 6D	Specification for Pipeline Valves	Body bolting for pipeline valves	ASTM A193 B7 stud bolts
API 590	Steel Line Blanks	Spectacle blinds, paddle blanks	ASTM A516/A105 material
API 594	Check Valves — Flanged	Bolting for check valves	Class 150 to 2500
API 602	Compact Steel Gate Valves	Forged body — small bore	2000–10000 PSI rating
API 605	Large-Diameter Carbon Steel Flanges	26" to 60"	Class 75–600
API 6H	End Closures, Connectors & Swivels	End connections — pipeline	High pressure

NACE — CORROSION STANDARDS (H2S / SOUR SERVICE)

Standard	Title	Material Requirement	Hardness Limit	Scope
NACE MR0175 / ISO 15156	Petroleum — H ₂ S environments	ASTM A193 B7M / B8M / B8	22 HRC max	Sour service fastener requirements
NACE MR0103	H ₂ S environments — refinery	CS, SS, nickel alloys	28 HRC max	Downstream refinery service
NACE SP0169	External corrosion control	Coatings + cathodic protection	—	Underground buried pipelines
NACE RP0472	Weld hardness — H ₂ S service	Post-weld heat treatment	Brinell check	PWHT requirements

MSS — MANUFACTURERS STANDARDIZATION SOCIETY

Standard	Description	Size / Pressure Range	Key Notes
MSS SP-43	Wrought & Fabricated BW Fittings — SS	1/2" — 48"	Lightweight SS fittings, Sch 5/10S
MSS SP-44	Steel Pipeline Flanges	1/2" — 48"	High-pressure pipeline flanges
MSS SP-55	Quality Standard for Steel Castings	All	Visual inspection criteria
MSS SP-58	Pipe Hangers & Supports	All	Hanger types, materials
MSS SP-75	High Test Wrought BW Fittings	1/2" — 48"	WPHY-52/56/60/65/70
MSS SP-79	Socket Weld Reducer Inserts	1/2" — 4"	ASME B16.11 companion
MSS SP-83	Unions — SW & Threaded	1/2" — 4"	Class 3000/6000
MSS SP-95	Swage (d) Nipples & Bull Plugs	1/2" — 4"	SW & threaded ends

IS (Indian Standards) & JIS (Japanese Standards)

Bureau of Indian Standards · Japanese Industrial Standards

IS — BUREAU OF INDIAN STANDARDS (BIS)

IS Number	Description	Size / Class Range	Equivalent International
IS 1363 (Pt.1)	Hex Head Bolts — coarse thread	M5–M100	ISO 4014 / 4017 / DIN 931/933
IS 1363 (Pt.3)	Hex Nuts — coarse thread	M5–M100	ISO 4032 / DIN 934
IS 1364 (Pt.1)	Hex Head Bolts — fine thread	M8–M64	ISO 8676
IS 1367	Technical requirements — fasteners	All grades	ISO 898-1, general quality
IS 2062	Hot-Rolled Steel — structural	All	Structural steel for bolted joints
IS 4826	Hot-Dip Galvanizing	All diameters	Equivalent to BS EN ISO 1461
IS 6392	Steel Pipe Flanges	15NB–600NB	ANSI B16.5 equivalent — PN series
IS 1239	Mild Steel Tubes & Fittings	15NB–150NB	BS 1387 equivalent — light/med/heavy
IS 3589	ERW Pipes (large dia)	200mm–2000mm	ASTM A53 equivalent
IS 7374	Stainless Steel Flanges	15NB–300NB	ASTM A182 equivalent
IS 2062 / E250	Structural Steel Fastener Material	—	Fe250 = Grade 4.6 base material
IS 12427	Anchor Fasteners — concrete	M8–M30	ETA approx. equivalent

JIS — JAPANESE INDUSTRIAL STANDARDS (JSA)

JIS Number	Description	Size Range	Equivalent
JIS B 1180	Hex Head Cap Screws & Bolts	M3–M100	ISO 4014 / DIN 931
JIS B 1181	Hex Nuts	M3–M100	ISO 4032 / DIN 934
JIS B 1256	Plain Washers	M2–M100	ISO 7089
JIS B 1176	Hex Socket Cap Screws	M3–M36	ISO 4762 / DIN 912
JIS B 2220	Pipe Flanges — steel	10A–1500A	ANSI B16.5 equivalent 10K/20K
JIS B 2301	Malleable Cast Iron Threaded Fittings	6A–100A	BS 143 equivalent
JIS B 2311	Steel Butt-Weld Pipe Fittings	15A–600A	ASME B16.9 equivalent

Thread Forms, Profiles & Tolerance Classes

Metric · Unified · BSP · NPT · Trapezoidal · ACME · Left-Hand

THREAD SYSTEM COMPARISON

Thread System	Standard	Profile Ang	Pitch Basis	Taper / Paralle	Primary Mark	Typical Use
Metric Coarse (M)	ISO 261 / DIN	60°	Pitch in mm	Parallel	Worldwide	General engineering fasteners
Metric Fine (MF)	ISO 261	60°	Fine pitch mm	Parallel	Worldwide	High-strength, vibration service
Unified Coarse (U)	ASME B1.1	60°	Threads per in	Parallel	USA/Canada	Inch fasteners — general
Unified Fine (UNF)	ASME B1.1	60°	Threads per in	Parallel	USA/Canada	Automotive, aircraft
Unified Extra Fine	ASME B1.1	60°	Threads per in	Parallel	USA	Thin-wall, precision
BSW — Whitworth	BS 84	55°	Threads per in	Parallel	UK/India	Legacy British standard
BSF — Fine Whitv	BS 84	55°	Threads per in	Parallel	UK/India	Legacy British fine
BSP Parallel (BSP)	ISO 228	55°	Threads per in	Parallel	Worldwide	Hydraulic, pneumatic fittings
BSP Taper (BSPT)	ISO 7-1	55°	Threads per in	1:16 taper	Worldwide	Sealing pipe connections
NPT — National P	ASME B1.20.	60°	Threads per in	1:16 taper	USA/Canada	Pipe fittings — sealing thread
NPTF — Dry Seal	ASME B1.20.	60°	Threads per in	1:16 taper	USA	High-pressure dry seal
Trapezoidal (Tr)	ISO 2901 / DI	30°	Pitch in mm	Parallel	Europe	Lead screws, actuators
ACME	ASME B1.5	29°	Threads per in	Parallel	USA	Lead screws, jack screws
Buttress	ASME B1.9	45° / 7°	Threads per in	Parallel	USA	One-directional load
Left-Hand (LH)	ISO / DIN / A:	60°	Same as RH	Parallel / taper	All regions	Anti-loosening applications

METRIC TOLERANCE CLASSES (ISO 965):

Bolts (external): 6g = standard commercial · 4g6g = precision · 8g = hot-dip galvanized (extra clearance for zinc coating)

Nuts (internal): 6H = standard commercial · 5H = precision · 6AZ = HDG (extra clearance) · 7H = coarser tolerance

Quick Reference Cross-Index

Most commonly specified fastener standards — DIN / ISO / ASME / ASTM equivalents at a glance

Product	DIN	ISO	ASME/ANSI	ASTM/SAE	BS EN
Hex Bolt — Partial Thread	DIN 931	ISO 4014	B18.2.1	A307/A325	BS EN ISO 4014
Hex Bolt — Full Thread	DIN 933	ISO 4017	B18.2.1	A307/A325	BS EN ISO 4017
Hex Nut — Standard	DIN 934	ISO 4032	B18.2.2	A194 2H	BS EN ISO 4032
Hex Nut — Prevailing Torque	DIN 980	ISO 7042	B18.16.6	F467	—
Hex Nut — Nylon Insert	DIN 985	ISO 7043	B18.16.6	—	—
Socket Head Cap Screw	DIN 912	ISO 4762	B18.3	A574	BS EN ISO 4762
Socket CSK Cap Screw	DIN 7991	ISO 10642	B18.3	A574	BS EN ISO 10642
Flat Washer — Standard	DIN 125	ISO 7089	B18.22.1	F436	BS EN ISO 7089
Large OD Flat Washer	DIN 9021	ISO 7093	B18.22.1	—	BS EN ISO 7093
Spring Lock Washer	DIN 127	ISO 7090	B18.21.1	F959	—
Stud Bolt — both ends	DIN 939	ISO 4033	B16.5 ref.	A193 B7	—
Threaded Rod — full thread	DIN 975	ISO 888	B18.31	A307	—
Dowel Pin — ground	DIN 6325	ISO 8734	—	—	—
Split Cotter Pin	DIN 94	ISO 1234	—	—	—
Circlip — external	DIN 471	ISO 2859	—	—	—
Slip-On Flange	DIN 2573	ISO 7005	B16.5	A105/A182	EN 1092-1
Weld Neck Flange	DIN 2633	ISO 7005	B16.5	A105/A182	EN 1092-1
Blind Flange	DIN 2527	ISO 7005	B16.5	A105/A182	EN 1092-1
BW Elbow 90° LR	DIN 2605	ISO 3419	B16.9	A234 WPB	—
BW Equal Tee	DIN 2615	ISO 3419	B16.9	A234 WPB	—
BW Concentric Reducer	DIN 2616	ISO 3419	B16.9	A234 WPB	—
SW/THD Elbow 90°	—	—	B16.11	A105/A182	—
SW/THD Full Coupling	—	—	B16.11	A105/A182	—
SW/THD Union	—	—	B16.11	A105/A182	—
Structural Bolt HV/HR	—	—	B18.2.1	A325/A490	EN 14399-3/4