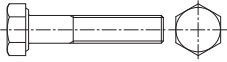
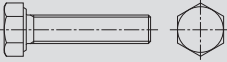
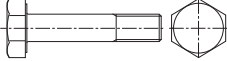
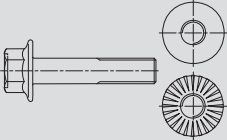
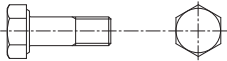
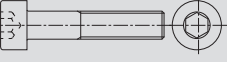
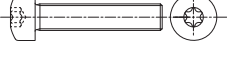
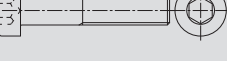
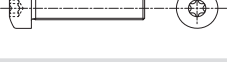
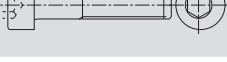
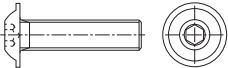
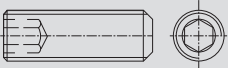
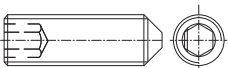
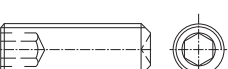
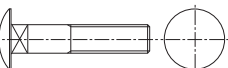
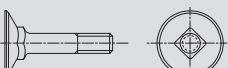
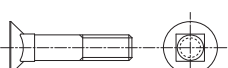
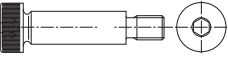
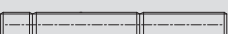
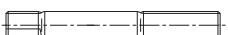
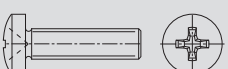
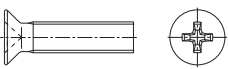
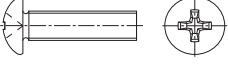
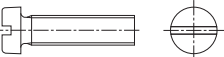
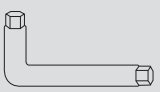
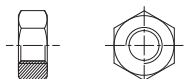
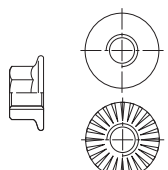


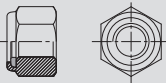
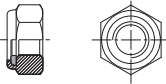
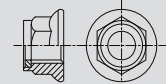
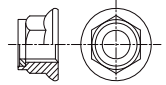
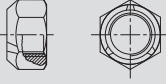
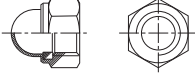
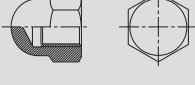
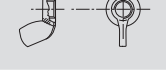
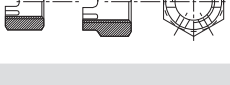
	Description	ISO	UNI	DIN	pag.
HEXAGON HEAD SCREWS WITH METRIC THREAD					1
	PARTIAL THREAD HEXAGON HEAD SCREWS	4014	5737	931	2
	FULL THREAD HEXAGON HEAD SCREWS	4017	5739	933	4
	PARTIAL THREAD HEXAGON HEAD SCREWS	8765	5738	960	6
	FULL THREAD HEXAGON HEAD SCREWS	8676	5740	961	8
	LARGE HEX HEAD SCREWS FOR STEEL STRUCTURES	-	5712	6914	10
	HEXAGON FLANGE SCREWS WITH OR WITHOUT SERRATION	UNI EN ISO 1665	-	6921	12
	HEXAGON HEAD SCREWS FOR BLADES	-	-	-	14
HEXAGON SOCKET SCREWS WITH METRIC THREAD					15
	HEXAGON SOCKET HEAD CAP SCREWS	4762	5931	912	16
	HEXAGON SOCKET HEAD CAP SCREWS	12474	5932	912	18
	HEXALOBULAR PAN HEAD SCREWS	14583	-	-	19
	HEXAGON SOCKET THIN HEAD CAP SCREWS	-	9327	7984	20
	LOW CYLINDRICAL HEAD SCREWS WITH EXALOBULAR SOCKET	14580	-	-	21
	HEXAGON SOCKET THIN HEAD CAP SCREWS WITH PILOT RECESS	-	-	6912	22
	HEXAGON SOCKET COUNTERSUNK HEAD SCREWS	10642	5933	7991	24
	HEXAGON SOCKET BUTTON HEAD SCREWS	7380/1	-	-	26

	Description	ISO	UNI	DIN	pag.
	HEXAGON SOCKET FLANGED BUTTON HEAD SCREWS	7380/2	-	-	27
	FLAT POINT HEXAGON SOCKET SET SCREWS	4026	5923-5924	913	28
	CONE POINT HEXAGON SOCKET SET SCREWS	4027	5927	914	30
	HEXAGON SOCKET SET SCREWS WITH DOG POINT	4028	5925	915	32
	CUP POINT HEXAGON SOCKET SET SCREWS	4029	5929	916	34
OTHER SCREWS WITH METRIC THREAD					37
	CARRIAGE BOLTS (MUSHROOM HEAD SQUARE NECK SCREWS)	8677	5731	603	38
	COUNTERSUNK BOLTS 120° WITH SQUARE NECK SCREWS	-	-	605	40
	COUNTERSUNK BOLTS 90° WITH SQUARE NECK SCREWS	-	-	608	41
	METRIC THREADED RODS	-	6547	975	42
	HEXAGON SOCKET HEAD CAP SHOULDER BOLTS	7379	-	-	43
	STUDS WITH SHORT END	-	5909	938	44
	MEDIUM TAP END STUDS	-	5911	939	45
	CROSS RECESSED PAN HEAD SCREWS	7045	7687	7985	46
	CROSS RECESSED COUNTERSUNK FLAT HEAD SCREWS	7046	7688	965	47
	CROSS RECESSED COUNTERSUNK RAISED HEAD SCREWS	7047	7689	966	48
	CROSS RECESSED HALF ROUND HEAD SCREWS	-	-	-	49

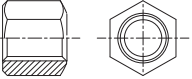
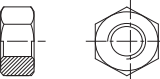
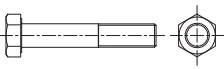
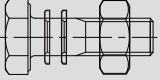
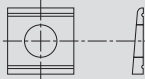
INDEX

	Description	ISO	UNI	DIN	pag.
	POZI COMBI TRUSS HEAD MACHINE SCREWS	-	-	-	50
	SLOTTED PAN HEAD SCREWS	1207	6107	84	51
	COUNTERSUNK SLOTTED FLAT HEAD SCREWS	2009	6109	963	52
	COUNTERSUNK SLOTTED RAISED HEAD SCREWS	2010	6110	964	53
	HEXAGONAL KEYS FOR SOCKET HEX SCREWS	2936	6753	911	54
NUTS					55
	HEX NUTS	-	5588	934	56
	ISO HEX NUTS	4032	-	-	57
	TWO WAYS FULL METAL LOCKING NUTS "TRIBLOCK"	-	-	-	58
	THIN HEX NUTS	4035-8675	-	439	59
	THIN HEX NUTS	-	5589	936	60
	HIGH HEX NUTS	-	5587	-	61
	HIGH HEX NUTS	4033-8674	-	-	62
	HEXAGONAL FLANGED NUTS WITH OR WITHOUT SERRATION	4161	-	6923	63

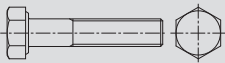
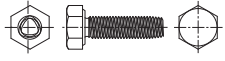
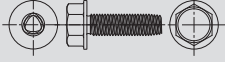
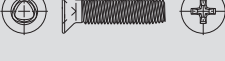
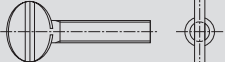
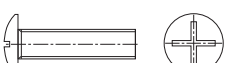
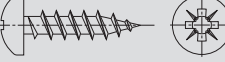
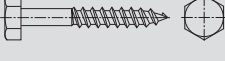
INDEX

	Description	ISO	UNI	DIN	pag.
	NYLON INSERT HIGH HEX LOCK NUTS	7040-10512	7473	982	64
	NYLON INSERT THIN HEX LOCK NUTS	10511	7474	985	65
	NYLON INSERT FLANGED HEX LOCK NUTS	7043	-	6926	66
	FULL METAL FLANGED HEX LOCK NUTS	7044	-	6927	67
	HEXAGON FULL METAL LOCK NUTS CONELOCK	7042-10513	-	980V	68
	HEXAGON DOMED CUP LOCK NUTS	-	-	986	69
	HEX DOMED CAP NUTS	-	5721	1587	70
	HEXAGON CAP NUTS LOW TYPE	-	-	917	71
	WING NUTS FORM A	-	5448	315	72
	STANDARD CASTLE HEX NUTS	7035	5593	935	73
	THIN CASTLE HEX NUTS	-	5594	937	74
	EXTENSION NUTS	-	5535	6334	75
	THIN SQUARE NUTS	-	5596	562	76
	CHAMFERED SQUARE NUTS	-	5597	557	77

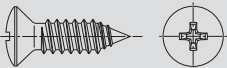
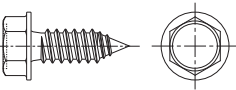
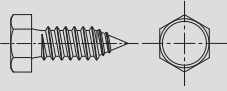
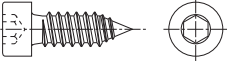
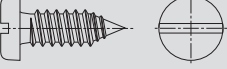
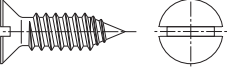
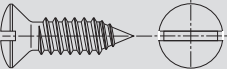
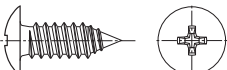
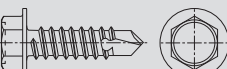
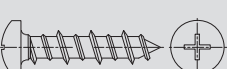
INDEX

	Description	ISO	UNI	DIN	pag.
	WELDING HEX NUTS	-	-	929	78
	WELDING NUTS WIDE HEXAGON	-	-	-	79
	SQUARE WELDING NUTS	-	-	928	80
	CAGE NUTS	-	-	-	81
	METRICS HEAVY HEXAGONAL NUTS	-	ANSI B.18.2.2	-	82
	UNC HEAVY HEXAGONAL NUTS	-	ANSI B.18.2.2	-	83
	UNC/UNF HEXAGONAL NUTS	-	ANSI B.18.2.2	-	84
	HIGH HEX NUTS 1,5 X D	-	-	6330 B	85
STRUCTURAL BOLTS					87
	LARGE HEX NUTS FOR STEEL STRUCTURES	-	5713	6915	88
	STRUCTURAL PLAIN WASHERS	7416	5714	6916	89
	HIGH STRENGTH NOT PRELOADED STRUCTURAL BOLT ASSEMBLY	EN 15048	-	-	90
	HIGH STRENGTH PRELOADED STRUCTURAL BOLT ASSEMBLY HV TYPE	UNI EN ISO 14399-4	-	-	92
	"PAL" EXAGONAL SELF LOCKING COUNTER NUTS	-	-	7967	93
	CHANNEL CLAMPING PLATES FOR UPN SECTIONS	-	6598	434	94

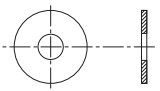
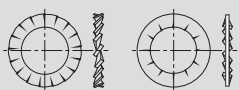
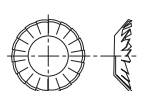
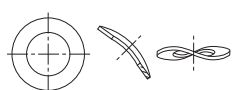
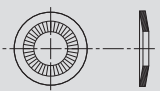
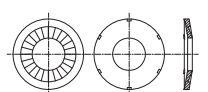
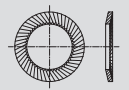
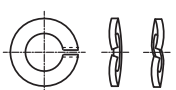
INDEX

	Description	ISO	UNI	DIN	pag.
OTHER SCREWS					
	HEXAGON HEAD SCREWS UNC/UNF	-	ANSI B18 2.1	-	96
	HEX HEAD TRILOBULAR SCREWS	-	8110	7500 D	97
	FLANGED HEX HEAD TRILOBULAR SCREWS	-	8111	-	98
	CROSS RECESSED PAN HEAD TRILOBULAR SCREWS	-	8112	7500 CE	99
	CROSS RECESSED COUNTERSUNK FLAT HEAD TRILOBULAR	-	8113	7500 M	100
	WING SCREWS	-	5449	316	101
	THUMB SCREWS	-	-	-	102
	ROOFING SCREWS	-	NFE 27-128	-	103
	POZI FLAT HEAD CHIPBOARD SCREWS	-	-	7505 A	104
	TORX FLAT HEAD WOOD SCREWS	-	-	-	106
	POZI PAN HEAD CHIPBOARD SCREWS	-	-	7505 B	108
	POZI OVAL FLAT HEAD CHIPBOARD SCREWS	-	-	7505 C	109
	HEX HEAD WOOD SCREWS	-	704	571	110
	HEXAGONAL FLANGED HEAD WOOD SCREWS	-	-	-	111
	PHILLIPS PAN HEAD SELF TAPPING SCREWS	7049	6954	7981	112
	PHILLIPS COUNTERSUNK FLAT HEAD SELF TAPPING SCREWS	7050	6955	7982	113

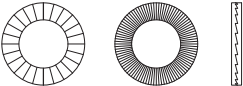
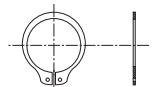
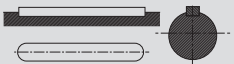
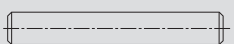
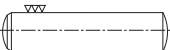
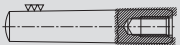
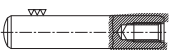
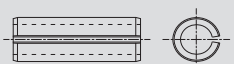
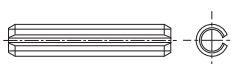
INDEX

	Description	ISO	UNI	DIN	pag.
	PHILLIPS COUNTERSUNK RAISED HEAD SELF TAPPING SCREWS	7051	6956	7983	114
	HEXAGON WASHER HEAD TAPPING SCREWS	-	6950	6928	115
	HEXAGON HEAD TAPPING SCREWS	1479	6949	7976	116
	SOCKET HEAD CAP TAPPING SCREWS	-	6947	-	117
	SLOTTED PAN HEAD TAPPING SCREWS	1481	6951	7971	118
	SLOTTED COUNTERSUNK HEAD TAPPING SCREWS	1482	6952	7972	119
	SLOTTED COUNTERSUNK RAISED HEAD TAPPING SCREWS	1483	6953	7973	120
	PHILLIPS HALF ROUND HEAD TAPPING SCREWS	-	-	-	121
	FLANGED HEX HEAD DRILLING SCREWS	15480	8117	7504 K	122
	COUNTERSUNK HEAD DRILLING SCREWS	15482	8119	7504 P	124
	PAN HEAD DRILLING SCREWS	15481	8118	7504 N	125
	COUNTERSUNK HEAD DRILLING SCREWS	-	-	-	126
	PHILLIPS PAN HEAD HI/LO SELF TAPPING SCREWS FOR PLASTIC	-	9707	-	127

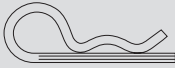
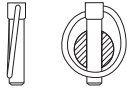
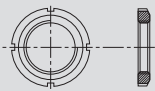
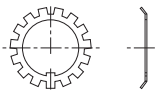
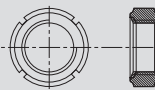
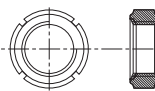
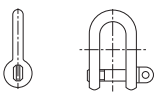
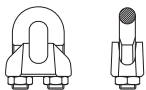
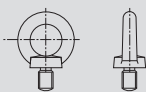
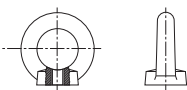
INDEX

	Description	ISO	UNI	DIN	pag.
WASHERS					
	FLAT WASHERS	7089	6592	125 A	130
	WIDE FLAT WASHERS	7093	6953	9021	131
	HELICAL SPRING WASHERS (GROWER)	-	1751	127 B	132
	SQUARE SECTION HELICAL SPRING WASHERS	-	-	7980	133
	SERRATED SPRING WASHERS	-	8842 A-J-AJ	6798 A-J-AJ	134
	CONICAL SERRATED SPRING WASHERS	-	8842 V	6798 V	135
	WAVE SPRING WASHERS TYPE A	-	8840 A	137 A	136
	WAVE SPRING WASHERS TYPE B	-	8840 B	137 b	137
	SPRING WASHERS "CONTACT"	-	NFE 25-511	-	138
	SPRING WASHERS "CONTACT" TOOTHED	-	-	-	139
	SERRATED SPRING WASHERS "SCHNORR" TYPE	-	-	-	140
	SQUARE SECTION HELICAL SPRING WASHERS	-	8839	128	141
	DISC SPRINGS	-	-	2093	142

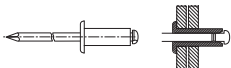
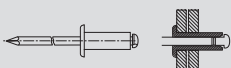
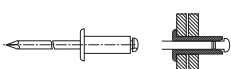
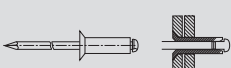
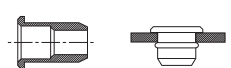
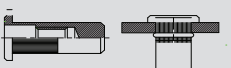
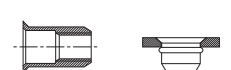
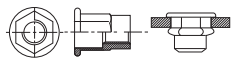
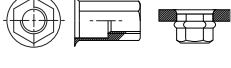
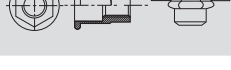
INDEX

	Description	ISO	UNI	DIN	pag.
	BOLT SECURING WASHERS	-	-	25201	144
	CONICAL SPRING WASHERS	-	-	6796	146
PINS AND SAFETY ELEMENTS					147
	ALUMINIUM / COPPER WASHERS	-	-	7603 A	148
	RETAINING RINGS FOR SHAFTS (EXTERNALS)	-	7435- 7436	471	149
	RETAINING RINGS FOR HOLES (INTERNALS)	-	7437- 7438	472	150
	RADIAL CIRCLIPS FOR SHAFTS	-	7434	6799	151
	PARALLEL KEYS	-	6604/A	6885A	152
	TAPER PINS	2339	7283	1	153
	DOWEL PINS	2338B	1707	7	154
	TEMPERED DOWEL PINS	8734A	6364A	6325	155
	TAPER PINS WITH INTERNAL THREAD	8736A	7284A	7978A	156
	TEMPERED DOWEL PINS WITH INTERNAL THREAD	8735	6364B	7979D	157
	SPRING-TYPE STRAIGHT PINS, SLOTTED, LIGHT DUTY	13337	6874	7346	158
	HEAVY DUTY SPRING PINS	8752	6873	1481	160
	SPIRAL SPRING PINS	8750	6875	7343	161
	SPLIT PINS	1234	1336	94	162

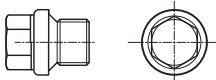
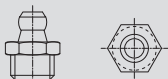
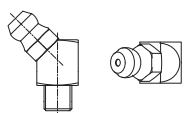
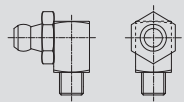
INDEX

	Description	ISO	UNI	DIN	pag.
	"R" SLIT PINS	-	-	-	163
	LINCH PINS	-	-	11023	164
	KM SLOTTED ROUND NUTS	-	-	981	165
	TOOTH WASHERS TYPE MB	-	-	5406	166
	SLOTTED ROUND LOCKING NUTS FOR HOOK SPANNER TYPE GN	-	-	-	167
	SLOTTED ROUND LOCKING NUTS FOR HOOK SPANNER HEAVY TYPE GP	-	-	-	168
EYEBOLTS, TURNBUCKLES AND LIFTING					169
	SHACKLES	-	-	82101 A	170
	THIMBLES	-	-	6899 A	171
	CAST IRON WIRE ROPE CLIPS	13411-5	-	741	172
	LIFTING EYE BOLTS	-	2947	580	173
	LIFTING EYE NUTS	-	2948	582	174
	TURNBUCKLES EYE-EYE*	-	-	1480	175

INDEX

	Description	ISO	UNI	DIN	pag.
RIVETS AND THREADED INSERTS					177
	STEEL / STEEL BLIND RIVETS	-	9200A	7337A	178
	ALUMINIUM / STEEL BLIND RIVETS	-	9200A	7337A	179
	STAINLESS STEEL BLIND RIVETS	-	9200A	7337A	180
	COPPER BLIND RIVETS	-	9200A	7337A	181
	ALUMINIUM / STEEL COUNTERSUNK BLIND RIVETS	-	9200B	7337B	182
	CYLINDRICAL HEAD RIVET NUTS FTT	-	-	-	183
	STEEL KNURLED THREADED INSERT CYLINDRICAL HEAD CLOSE END TYPE FTTC	-	-	-	184
	COUNTERSUNK HEAD RIVET NUTS FTS	-	-	-	185
	STEEL REDUCED HEAD RIVET NUTS FTR	-	-	-	186
	STEEL CYLINDRICAL HEAD RIVET NUTS WITH HEXAGONAL SHANK FTTE	-	-	-	187
	STEEL CYLINDRICAL HEAD BLIND RIVET NUTS WITH HEXA- GONAL SHANK FTTEC	-	-	-	188
	STEEL REDUCED HEAD RIVET NUTS WITH HEXAGONAL SHANK ER	-	-	-	189
	STEEL REDUCED HEAD RIVET NUTS WITH HEXAGONAL SHANK CLOSED END TYPE ERC	-	-	-	190
	STEEL REDUCED HEAD RIVET NUTS WITH PARTIALLY HEXAGONAL SHANK ERSE	-	-	-	191
	STEEL CYLINDRICAL HEAD RIVET NUTS WITH PARTIALLY HEXAGONAL SHANK FTTSE	-	-	-	192
	STEEL KNURLED COUNTERSUNK HEAD BLIND RIVET NUTS FTSC	-	-	-	193

INDEX

Description		ISO	UNI	DIN	pag.
CAPS AND GREASE NIPPLES					195
	INTERNAL DRIVE PIPE PLUG WITH CONICAL THREAD HEX SOCKET	-	-	906	196
	INTERNAL DRIVE PIPE PLUG WITH CONICAL COLLAR CYLINDRICAL HEX SOCKET	-	-	908	197
	HEX HEAD SCREW PLUG WITH COLLAR CYLINDRICAL THREAD	-	-	910	198
	GREASE NIPPLES	-	7663	71412	199

ISO STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
SLOTTED PAN HEAD SCREWS	1207	6107	84	51
SPLIT PINS	1234	1336	94	162
HEXAGON HEAD TAPPING SCREWS	1479	6949	7976	116
SLOTTED PAN HEAD TAPPING SCREWS	1481	6951	7971	118
SLOTTED COUNTERSUNK HEAD TAPPING SCREWS	1482	6952	7972	119
SLOTTED COUNTERSUNK RAISED HEAD TAPPING SCREWS	1483	6953	7973	120
HEXAGON FLANGE SCREWS WITH OR WITHOUT SERRATION	UNI EN ISO 1665	-	6921	12
COUNTERSUNK SLOTTED FLAT HEAD SCREWS	2009	6109	963	52
COUNTERSUNK SLOTTED RAISED HEAD SCREWS	2010	6110	964	53
DOWEL PINS	2338B	1707	7	154
TAPER PINS	2339	7283	1	153
HEXAGONAL KEYS FOR SOCKET HEX SCREWS	2936	6753	911	54
PARTIAL THREAD HEXAGON HEAD SCREWS	4014	5737	931	2
FULL THREAD HEXAGON HEAD SCREWS	4017	5739	933	4
FLAT POINT HEXAGON SOCKET SET SCREWS	4026	5923- 5924	913	28
CONE POINT HEXAGON SOCKET SET SCREWS	4027	5927	914	30
HEXAGON SOCKET SET SCREWS WITH DOG POINT	4028	5925	915	32
CUP POINT HEXAGON SOCKET SET SCREWS	4029	5929	916	34
ISO HEX NUTS	4032	-	-	57
HIGH HEX NUTS	4033- 8674	-	-	62
THIN HEX NUTS	4035- 8675	-	439	59
HEXAGONAL FLANGED NUTS WITH OR WITHOUT SERRATION	4161	-	6923	63
HEXAGON SOCKET HEAD CAP SCREWS	4762	5931	912	16
STANDARD CASTLE HEX NUTS	7035	5593	935	73

ISO STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
NYLON INSERT HIGH HEX LOCK NUTS	7040-10512	7473	982	64
HEXAGON FULL METAL LOCK NUTS CONELOCK	7042-10513	-	980V	68
NYLON INSERT FLANGED HEX LOCK NUTS	7043	-	6926	66
FULL METAL FLANGED HEX LOCK NUTS	7044	-	6927	67
CROSS RECESSED PAN HEAD SCREWS	7045	7687	7985	46
CROSS RECESSED COUNTERSUNK FLAT HEAD SCREWS	7046	7688	965	47
CROSS RECESSED COUNTERSUNK RAISED HEAD SCREWS	7047	7689	966	48
PHILLIPS PAN HEAD SELF TAPPING SCREWS	7049	6954	7981	112
PHILLIPS COUNTERSUNK FLAT HEAD SELF TAPPING SCREWS	7050	6955	7982	113
PHILLIPS COUNTERSUNK RAISED HEAD SELF TAPPING SCREWS	7051	6956	7983	114
FLAT WASHERS	7089	6592	125 A	130
WIDE FLAT WASHERS	7093	6953	9021	131
HEXAGON SOCKET HEAD CAP SHOULDER BOLTS	7379	-	-	43
HEXAGON SOCKET BUTTON HEAD SCREWS	7380/1	-	-	26
HEXAGON SOCKET FLANGED BUTTON HEAD SCREWS	7380/2	-	-	27
STRUCTURAL PLAIN WASHERS	7416	5714	6916	89
FULL THREAD HEXAGON HEAD SCREWS	8676	5740	961	8
CARRIAGE BOLTS (MUSHROOM HEAD SQUARE NECK SCREWS)	8677	5731	603	38
TEMPERED DOWEL PINS	8734A	6364A	6325	155
TEMPERED DOWEL PINS WITH INTERNAL THREAD	8735	6364B	7979D	157
TAPER PINS WITH INTERNAL THREAD	8736A	7284A	7978A	156
SPIRAL SPRING PINS	8750	6875	7343	161
HEAVY DUTY SPRING PINS	8752	6873	1481	160
PARTIAL THREAD HEXAGON HEAD SCREWS	8765	5738	960	6
NYLON INSERT THIN HEX LOCK NUTS	10511	7474	985	65
HEXAGON SOCKET COUNTERSUNK HEAD SCREWS	10642	5933	7991	24

ISO STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
NYLON INSERT HIGH HEX LOCK NUTS	7040-10512	7473	982	64
HEXAGON FULL METAL LOCK NUTS CONELOCK	7042-10513	-	980V	68
NYLON INSERT FLANGED HEX LOCK NUTS	7043	-	6926	66
FULL METAL FLANGED HEX LOCK NUTS	7044	-	6927	67
CROSS RECESSED PAN HEAD SCREWS	7045	7687	7985	46
CROSS RECESSED COUNTERSUNK FLAT HEAD SCREWS	7046	7688	965	47
CROSS RECESSED COUNTERSUNK RAISED HEAD SCREWS	7047	7689	966	48
PHILLIPS PAN HEAD SELF TAPPING SCREWS	7049	6954	7981	112
PHILLIPS COUNTERSUNK FLAT HEAD SELF TAPPING SCREWS	7050	6955	7982	113
PHILLIPS COUNTERSUNK RAISED HEAD SELF TAPPING SCREWS	7051	6956	7983	114
FLAT WASHERS	7089	6592	125 A	130
WIDE FLAT WASHERS	7093	6953	9021	131
HEXAGON SOCKET HEAD CAP SHOULDER BOLTS	7379	-	-	43
HEXAGON SOCKET BUTTON HEAD SCREWS	7380/1	-	-	26
HEXAGON SOCKET FLANGED BUTTON HEAD SCREWS	7380/2	-	-	27
STRUCTURAL PLAIN WASHERS	7416	5714	6916	89
FULL THREAD HEXAGON HEAD SCREWS	8676	5740	961	8
CARRIAGE BOLTS (MUSHROOM HEAD SQUARE NECK SCREWS)	8677	5731	603	38
TEMPERED DOWEL PINS	8734A	6364A	6325	155
TEMPERED DOWEL PINS WITH INTERNAL THREAD	8735	6364B	7979D	157
TAPER PINS WITH INTERNAL THREAD	8736A	7284A	7978A	156
SPIRAL SPRING PINS	8750	6875	7343	161
HEAVY DUTY SPRING PINS	8752	6873	1481	160
PARTIAL THREAD HEXAGON HEAD SCREWS	8765	5738	960	6
NYLON INSERT THIN HEX LOCK NUTS	10511	7474	985	65
HEXAGON SOCKET COUNTERSUNK HEAD SCREWS	10642	5933	7991	24

ISO STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
HEXAGON SOCKET HEAD CAP SCREWS	12474	5932	912	18
SPRING-TYPE STRAIGHT PINS, SLOTTED, LIGHT DUTY	13337	6874	7346	158
CAST IRON WIRE ROPE CLIPS	13411-5	-	741	172
HIGH STRENGTH PRELOADED STRUCTURAL BOLT ASSEMBLY HV TYPE	UNI EN ISO 14399-4			92
LOW CYLINDRICAL HEAD SCREWS WITH EXALOBULAR SOCKET	14580	-	-	21
HEXALOBULAR PAN HEAD SCREWS	14583	-	-	19
HIGH STRENGTH NOT PRELOADED STRUCTURAL BOLT ASSEMBLY	EN 15048			90
FLANGED HEX HEAD DRILLING SCREWS	15480	8117	7504 K	122
PAN HEAD DRILLING SCREWS	15481	8118	7504 N	125
COUNTERSUNK HEAD DRILLING SCREWS	15482	8119	7504 P	124

UNI STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
HEX HEAD WOOD SCREWS	-	704	571	110
SPLIT PINS	1234	1336	94	162
DOWEL PINS	2338B	1707	7	154
HELICAL SPRING WASHERS (GROWER)	-	1751	127 B	132
LIFTING EYE BOLTS	-	2947	580	173
LIFTING EYE NUTS	-	2948	582	174
WING NUTS FORM A	-	5448	315	72
WING SCREWS	-	5449	316	101
EXTENSION NUTS	-	5535	6334	75
HIGH HEX NUTS	-	5587	-	61
HEX NUTS	-	5588	934	56
THIN HEX NUTS	-	5589	936	60
STANDARD CASTLE HEX NUTS	7035	5593	935	73
THIN CASTLE HEX NUTS	-	5594	937	74
THIN SQUARE NUTS	-	5596	562	76
CHAMFERED SQUARE NUTS	-	5597	557	77
LARGE HEX HEAD SCREWS FOR STEEL STRUCTURES	-	5712	6914	10
LARGE HEX NUTS FOR STEEL STRUCTURES	-	5713	6915	88
STRUCTURAL PLAIN WASHERS	7416	5714	6916	89
HEX DOMED CAP NUTS	-	5721	1587	70
CARRIAGE BOLTS (MUSHROOM HEAD SQUARE NECK SCREWS)	8677	5731	603	38
PARTIAL THREAD HEXAGON HEAD SCREWS	4014	5737	931	2
PARTIAL THREAD HEXAGON HEAD SCREWS	8765	5738	960	6
FULL THREAD HEXAGON HEAD SCREWS	4017	5739	933	4
FULL THREAD HEXAGON HEAD SCREWS	8676	5740	961	8
STUDS WITH SHORT END	-	5909	938	44
MEDIUM TAP END STUDS	-	5911	939	45

UNI STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
FLAT POINT HEXAGON SOCKET SET SCREWS	4026	5923-5924	913	28
HEXAGON SOCKET SET SCREWS WITH DOG POINT	4028	5925	915	32
CONE POINT HEXAGON SOCKET SET SCREWS	4027	5927	914	30
CUP POINT HEXAGON SOCKET SET SCREWS	4029	5929	916	34
HEXAGON SOCKET HEAD CAP SCREWS	4762	5931	912	16
HEXAGON SOCKET HEAD CAP SCREWS	12474	5932	912	18
HEXAGON SOCKET COUNTERSUNK HEAD SCREWS	10642	5933	7991	24
SLOTTED PAN HEAD SCREWS	1207	6107	84	51
COUNTERSUNK SLOTTED FLAT HEAD SCREWS	2009	6109	963	52
COUNTERSUNK SLOTTED RAISED HEAD SCREWS	2010	6110	964	53
TEMPERED DOWEL PINS	8734A	6364A	6325	155
TEMPERED DOWEL PINS WITH INTERNAL THREAD	8735	6364B	7979D	157
METRIC THREADED RODS	-	6547	975	42
FLAT WASHERS	7089	6592	125 A	130
CHANNEL CLAMPING PLATES FOR UPN SECTIONS	-	6598	434	94
PARALLEL KEYS	-	6604/A	6885A	152
HEXAGONAL KEYS FOR SOCKET HEX SCREWS	2936	6753	911	54
HEAVY DUTY SPRING PINS	8752	6873	1481	160
SPRING-TYPE STRAIGHT PINS, SLOTTED, LIGHT DUTY	13337	6874	7346	158
SPIRAL SPRING PINS	8750	6875	7343	161
SOCKET HEAD CAP TAPPING SCREWS	-	6947	-	117
HEXAGON HEAD TAPPING SCREWS	1479	6949	7976	116
HEXAGON WASHER HEAD TAPPING SCREWS	-	6950	6928	115
SLOTTED PAN HEAD TAPPING SCREWS	1481	6951	7971	118
SLOTTED COUNTERSUNK HEAD TAPPING SCREWS	1482	6952	7972	119
SLOTTED COUNTERSUNK RAISED HEAD TAPPING SCREWS	1483	6953	7973	120

UNI STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
WIDE FLAT WASHERS	7093	6953	9021	131
PHILLIPS PAN HEAD SELF TAPPING SCREWS	7049	6954	7981	112
PHILLIPS COUNTERSUNK FLAT HEAD SELF TAPPING SCREWS	7050	6955	7982	113
PHILLIPS COUNTERSUNK RAISED HEAD SELF TAPPING SCREWS	7051	6956	7983	114
TAPER PINS	2339	7283	1	153
TAPER PINS WITH INTERNAL THREAD	8736A	7284A	7978A	156
RADIAL CIRCLIPS FOR SHAFTS	-	7434	6799	151
RETAINING RINGS FOR SHAFTS (EXTERNALS)	-	7435- 7436	471	149
RETAINING RINGS FOR HOLES (INTERNALS)	-	7437- 7438	472	150
NYLON INSERT HIGH HEX LOCK NUTS	7040- 10512	7473	982	64
NYLON INSERT THIN HEX LOCK NUTS	10511	7474	985	65
GREASE NIPPLES	-	7663	71412	199
CROSS RECESSED PAN HEAD SCREWS	7045	7687	7985	46
CROSS RECESSED COUNTERSUNK FLAT HEAD SCREWS	7046	7688	965	47
CROSS RECESSED COUNTERSUNK RAISED HEAD SCREWS	7047	7689	966	48
HEX HEAD TRILOBULAR SCREWS	-	8110	7500 D	97
FLANGED HEX HEAD TRILOBULAR SCREWS	-	8111	-	98
CROSS RECESSED PAN HEAD TRILOBULAR SCREWS	-	8112	7500 CE	99
CROSS RECESSED COUNTERSUNK FLAT HEAD TRILOBULAR	-	8113	7500 M	100
FLANGED HEX HEAD DRILLING SCREWS	15480	8117	7504 K	122
PAN HEAD DRILLING SCREWS	15481	8118	7504 N	125
COUNTERSUNK HEAD DRILLING SCREWS	15482	8119	7504 P	124
SQUARE SECTION HELICAL SPRING WASHERS	-	8839	128	141
WAVE SPRING WASHERS TYPE A	-	8840 A	137 A	136
WAVE SPRING WASHERS TYPE B	-	8840 B	137 b	137

UNI STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
SERRATED SPRING WASHERS	-	8842 A-J-AJ	6798 A-J-AJ	134
CONICAL SERRATED SPRING WASHERS	-	8842 V	6798 V	135
STEEL / STEEL BLIND RIVETS	-	9200A	7337A	178
ALUMINIUM / STEEL BLIND RIVETS	-	9200A	7337A	179
STAINLESS STEEL BLIND RIVETS	-	9200A	7337A	180
COPPER BLIND RIVETS	-	9200A	7337A	181
ALUMINIUM / STEEL COUNTERSUNK BLIND RIVETS	-	9200B	7337B	182
HEXAGON SOCKET THIN HEAD CAP SCREWS	-	9327	7984	20
PHILLIPS PAN HEAD HI/LO SELF TAPPING SCREWS FOR PLASTIC	-	9707	-	127

DIN STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
TAPER PINS	2339	7283	1	153
DOWEL PINS	2338B	1707	7	154
SLOTTED PAN HEAD SCREWS	1207	6107	84	51
SPLIT PINS	1234	1336	94	162
FLAT WASHERS	7089	6592	125 A	130
HELICAL SPRING WASHERS (GROWER)	-	1751	127 B	132
SQUARE SECTION HELICAL SPRING WASHERS	-	8839	128	141
WAVE SPRING WASHERS TYPE A	-	8840 A	137 A	136
WAVE SPRING WASHERS TYPE B	-	8840 B	137 b	137
WING NUTS FORM A	-	5448	315	72
WING SCREWS	-	5449	316	101
CHANNEL CLAMPING PLATES FOR UPN SECTIONS	-	6598	434	94
THIN HEX NUTS	4035- 8675	-	439	59
RETAINING RINGS FOR SHAFTS (EXTERNALS)	-	7435- 7436	471	149
RETAINING RINGS FOR HOLES (INTERNALS)	-	7437- 7438	472	150
CHAMFERED SQUARE NUTS	-	5597	557	77
THIN SQUARE NUTS	-	5596	562	76
HEX HEAD WOOD SCREWS	-	704	571	110
LIFTING EYE BOLTS	-	2947	580	173
LIFTING EYE NUTS	-	2948	582	174
CARRIAGE BOLTS (MUSHROOM HEAD SQUARE NECK SCREWS)	8677	5731	603	38
COUNTERSUNK BOLTS 120° WITH SQUARE NECK SCREWS	-	-	605	40
COUNTERSUNK BOLTS 90° WITH SQUARE NECK SCREWS	-	-	608	41
CAST IRON WIRE ROPE CLIPS	13411-5	-	741	172
INTERNAL DRIVE PIPE PLUG WITH CONICAL THREAD HEX SOCKET	-	-	906	196

DIN STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
INTERNAL DRIVE PIPE PLUG WITH CONICAL COLLAR CYLINDRICAL HEX SOCKET	-	-	908	197
HEX HEAD SCREW PLUG WITH COLLAR CYLINDRICAL THREAD	-	-	910	198
HEXAGONAL KEYS FOR SOCKET HEX SCREWS	2936	6753	911	54
HEXAGON SOCKET HEAD CAP SCREWS	4762	5931	912	16
HEXAGON SOCKET HEAD CAP SCREWS	12474	5932	912	18
FLAT POINT HEXAGON SOCKET SET SCREWS	4026	5923-5924	913	28
CONE POINT HEXAGON SOCKET SET SCREWS	4027	5927	914	30
HEXAGON SOCKET SET SCREWS WITH DOG POINT	4028	5925	915	32
CUP POINT HEXAGON SOCKET SET SCREWS	4029	5929	916	34
HEXAGON CAP NUTS LOW TYPE	-	-	917	71
SQUARE WELDING NUTS	-	-	928	80
WELDING HEX NUTS	-	-	929	78
PARTIAL THREAD HEXAGON HEAD SCREWS	4014	5737	931	2
FULL THREAD HEXAGON HEAD SCREWS	4017	5739	933	4
HEX NUTS	-	5588	934	56
STANDARD CASTLE HEX NUTS	7035	5593	935	73
THIN HEX NUTS	-	5589	936	60
THIN CASTLE HEX NUTS	-	5594	937	74
STUDS WITH SHORT END	-	5909	938	44
MEDIUM TAP END STUDS	-	5911	939	45
PARTIAL THREAD HEXAGON HEAD SCREWS	8765	5738	960	6
FULL THREAD HEXAGON HEAD SCREWS	8676	5740	961	8
COUNTERSUNK SLOTTED FLAT HEAD SCREWS	2009	6109	963	52
COUNTERSUNK SLOTTED RAISED HEAD SCREWS	2010	6110	964	53
CROSS RECESSED COUNTERSUNK FLAT HEAD SCREWS	7046	7688	965	47
CROSS RECESSED COUNTERSUNK RAISED HEAD SCREWS	7047	7689	966	48

DIN STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
METRIC THREADED RODS	-	6547	975	42
HEXAGON FULL METAL LOCK NUTS CONELOCK	7042-10513	-	980V	68
KM SLOTTED ROUND NUTS	-	-	981	165
NYLON INSERT HIGH HEX LOCK NUTS	7040-10512	7473	982	64
NYLON INSERT THIN HEX LOCK NUTS	10511	7474	985	65
HEXAGON DOMED CUP LOCK NUTS	-	-	986	69
TURNBUCKLES EYE-EYE*	-	-	1480	175
HEAVY DUTY SPRING PINS	8752	6873	1481	160
HEX DOMED CAP NUTS	-	5721	1587	70
DISC SPRINGS	-	-	2093	142
TOOTH WASHERS TYPE MB	-	-	5406	166
TEMPERED DOWEL PINS	8734A	6364A	6325	155
EXTENSION NUTS	-	5535	6334	75
HIGH HEX NUTS 1,5 X D	-	-	6330 B	85
CONICAL SPRING WASHERS	-	-	6796	146
SERRATED SPRING WASHERS	-	8842 A-J-AJ	6798 A-J-AJ	134
CONICAL SERRATED SPRING WASHERS	-	8842 V	6798 V	135
RADIAL CIRCLIPS FOR SHAFTS	-	7434	6799	151
PARALLEL KEYS	-	6604/A	6885A	152
THIMBLES	-	-	6899 A	171
HEXAGON SOCKET THIN HEAD CAP SCREWS WITH PILOT RECESS	-	-	6912	22
LARGE HEX HEAD SCREWS FOR STEEL STRUCTURES	-	5712	6914	10
LARGE HEX NUTS FOR STEEL STRUCTURES	-	5713	6915	88
STRUCTURAL PLAIN WASHERS	7416	5714	6916	89
HEXAGON FLANGE SCREWS WITH OR WITHOUT SERRATION	UNI EN ISO 1665	-	6921	12

DIN STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
HEXAGONAL FLANGED NUTS WITH OR WITHOUT SERRATION	4161	-	6923	63
NYLON INSERT FLANGED HEX LOCK NUTS	7043	-	6926	66
FULL METAL FLANGED HEX LOCK NUTS	7044	-	6927	67
HEXAGON WASHER HEAD TAPPING SCREWS	-	6950	6928	115
STEEL / STEEL BLIND RIVETS	-	9200A	7337A	178
ALUMINIUM / STEEL BLIND RIVETS	-	9200A	7337A	179
STAINLESS STEEL BLIND RIVETS	-	9200A	7337A	180
COPPER BLIND RIVETS	-	9200A	7337A	181
ALUMINIUM / STEEL COUNTERSUNK BLIND RIVETS	-	9200B	7337B	182
SPIRAL SPRING PINS	8750	6875	7343	161
SPRING-TYPE STRAIGHT PINS, SLOTTED, LIGHT DUTY	13337	6874	7346	158
CROSS RECESSED PAN HEAD TRILOBULAR SCREWS	-	8112	7500 CE	99
HEX HEAD TRILOBULAR SCREWS	-	8110	7500 D	97
CROSS RECESSED COUNTERSUNK FLAT HEAD TRILOBULAR	-	8113	7500 M	100
FLANGED HEX HEAD DRILLING SCREWS	15480	8117	7504 K	122
PAN HEAD DRILLING SCREWS	15481	8118	7504 N	125
COUNTERSUNK HEAD DRILLING SCREWS	15482	8119	7504 P	124
POZI FLAT HEAD CHIPBOARD SCREWS	-	-	7505 A	104
POZI PAN HEAD CHIPBOARD SCREWS	-	-	7505 B	108
POZI OVAL FLAT HEAD CHIPBOARD SCREWS	-	-	7505 C	109
ALUMINIUM / COPPER WASHERS	-	-	7603 A	148
"PAL" EXAGONAL SELF LOCKING COUNTER NUTS	-	-	7967	93
SLOTTED PAN HEAD TAPPING SCREWS	1481	6951	7971	118
SLOTTED COUNTERSUNK HEAD TAPPING SCREWS	1482	6952	7972	119
SLOTTED COUNTERSUNK RAISED HEAD TAPPING SCREWS	1483	6953	7973	120
HEXAGON HEAD TAPPING SCREWS	1479	6949	7976	116
TAPER PINS WITH INTERNAL THREAD	8736A	7284A	7978A	156

DIN STANDARDS INDEX

Description	ISO	UNI	DIN	pag.
TEMPERED DOWEL PINS WITH INTERNAL THREAD	8735	6364B	7979D	157
SQUARE SECTION HELICAL SPRING WASHERS	-	-	7980	133
PHILLIPS PAN HEAD SELF TAPPING SCREWS	7049	6954	7981	112
PHILLIPS COUNTERSUNK FLAT HEAD SELF TAPPING SCREWS	7050	6955	7982	113
PHILLIPS COUNTERSUNK RAISED HEAD SELF TAPPING SCREWS	7051	6956	7983	114
HEXAGON SOCKET THIN HEAD CAP SCREWS	-	9327	7984	20
CROSS RECESSED PAN HEAD SCREWS	7045	7687	7985	46
HEXAGON SOCKET COUNTERSUNK HEAD SCREWS	10642	5933	7991	24
WIDE FLAT WASHERS	7093	6953	9021	131
LINCH PINS	-	-	11023	164
BOLT SECURING WASHERS	-	-	25201	144
GREASE NIPPLES	-	7663	71412	199
SHACKLES	-	-	82101 A	170

PINS AND SAFETY ELEMENTS



We offer a wide range of pins and safety components used for locking, alignment, and sealing in mechanical and structural applications.

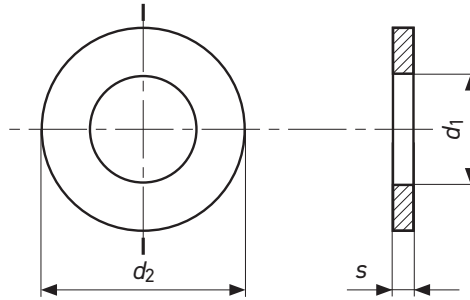
Sealing rings in aluminum or copper ensure tightness between surfaces, especially in hydraulic and pneumatic systems. Retaining rings, both for shafts (external) and for bores (internal), allow the secure positioning of rotating components, while radial rings provide greater axial retention.

Woodruff keys are transmission elements between shaft and hub, essential in mechanical joints. Pins – cylindrical, conical, or spring – guarantee alignment and locking of mechanical components. Hardened versions or those with extraction holes are ideal for high-precision applications or to facilitate maintenance. Spiral spring pins offer flexibility and impact resistance.

Cotter pins and R-clips are simple yet essential elements to prevent accidental loosening of nuts or bolts. Quick-release pins allow fast and safe assembly. Locknuts (KM, GN, GP) and the related MB washers ensure secure fastening on threaded shafts.

ALUMINIUM / COPPER WASHERS

ISO UNI DIN
- - 7603 A



MATERIAL

ALUMINIUM - COPPER

MECHANICAL PROPERTIES

ACCORDING TO UNI EN 573

AVAILABLE TREATMENT

Natural, Brick

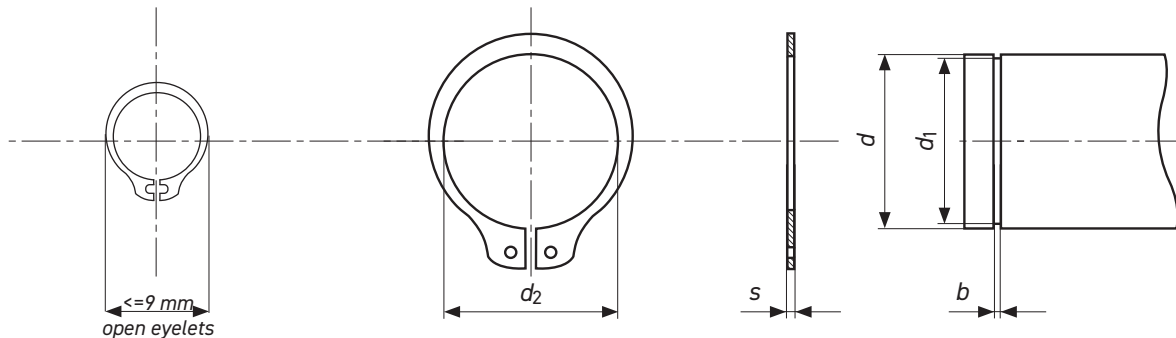
d ₁ (ref. Gas)	d ₂	s	
		natural/brick	
		thin	thick
4	9	1	1,5
5	9	1	1,5
5	10	1	1,5
6	10	1	1,5
6	11	1	1,5
8	12	1	1,5
8	13	1	1,5
8	14	1	1,5
10 (1/8")	14	1	1,5
10 (1/8")	16	1	1,5
12	17	1	1,5
13 (1/4")	19		1,5
14	20		1,5
16	22		1,5
17 (3/8")	22		1,5
18	24		1,5
20	26		1,5
21 (1/2")	27		1,5
22	28		1,5
23 (5/8")	29		1,5
24	30		1,5
26	32		1,5
27 (3/4")	33		1,5
28	34		1,5
30	36		1,5
33 (1")	41		1,5
42 (1 1/4")	50		1,5
48 (1 1/2")	60		1,5
60 (2")	72		1,5

 Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

RETAINING RINGS FOR SHAFTS (EXTERNALS)

ISO
-
UNI
7435-7436*
DIN
471



MATERIAL

SPRING STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

ACCORDING TO UNI EN 10132-4
47-54 HRC ≤ Ø 48
44-51 HRC Ø 50-200

ACCORDING TO UNI EN 10088-3

CLASS

430-530 HV

AISI 420

TOLLERANCES

ACCORDING TO DIN 471

ACCORDING TO DIN 471

AVAILABLE TREATMENT

Black - Other coatings on request

d	d ₂	s	d ₁	b	Kg	d	d ₂	s	d ₁	b	Kg	d	d ₂	s	d ₁	b	Kg
4	3,7	0,4	3,8	0,5	0,033	41	37,5	1,75	38,5	1,85	6,440	102	95	4	98	4,15	71,08
5	4,7	0,6	4,8	0,7	0,080	42	38,5	1,75	39,5	1,85	6,884	105	98	4	101	4,15	70,45
6	5,6	0,7	5,7	0,8	0,126	43	39,5	1,75	40,5	1,85	6,884	107	100	4	103	4,15	78,79
7	6,5	0,8	6,7	0,9	0,192	44	40,5	1,75	41,5	1,85	7,958	108	101	4	104	4,15	78,79
8	7,4	0,8	7,6	0,9	0,225	45	41,5	1,75	42,5	1,85	7,573	110	103	4	106	4,15	72,79
9	8,4	1	8,6	1,1	0,379	46	42,5	1,75	43,5	1,85	7,650	112	105	4	108	4,15	84,27
10	9,3	1	9,6	1,1	0,420	47	43,5	1,75	44,5	1,85	7,840	115	108	4	111	4,15	84,63
11	10,2	1	10,5	1,1	0,454	48	44,5	1,75	45,5	1,85	8,160	117	110	4	113	4,15	88,61
12	11	1	11,5	1,1	0,490	50	45,8	2	47	2,15	10,706	118	110	4	114	4,15	88,61
13	11,9	1	12,4	1,1	0,584	52	47,8	2	49	2,15	11,328	120	113	4	116	4,15	91,55
14	12,9	1	13,4	1,1	0,652	54	49,8	2	51	2,15	12,512	122	115	4	118	4,15	93,26
15	13,8	1	14,3	1,1	0,732	55	50,8	2	52	2,15	12,413	125	118	4	121	4,15	98,06
16	14,7	1	15,2	1,1	0,810	56	51,8	2	53	2,15	11,684	127	120	4	123	4,15	101,08
17	15,7	1	16,2	1,1	0,892	57	52,8	2	54	2,15	13,464	128	120	4	124	4,15	101,08
18	16,5	1,2	17	1,3	1,198	58	53,8	2	55	2,15	13,119	130	123	4	126	4,15	104,00
19	17,5	1,2	18	1,3	1,253	60	55,8	2	57	2,15	13,866	132	125	4	128	4,15	110,40
20	18,5	1,2	19	1,3	1,320	62	57,8	2	59	2,15	14,266	135	128	4	131	4,15	110,70
21	19,5	1,2	20	1,3	1,480	63	58,8	2	60	2,15	14,540	137	130	4	133	4,15	115,70
22	20,5	1,2	21	1,3	1,621	65	60,8	2,5	62	2,65	21,225	138	130	4	134	4,15	115,70
23	21,5	1,2	22	1,3	1,745	67	62,5	2,5	64	2,65	20,520	140	133	4	136	4,15	114,40
24	22,2	1,2	22,9	1,3	1,801	68	63,5	2,5	65	2,65	22,125	142	135	4	138	4,15	124,70
25	23,2	1,2	23,9	1,3	1,928	70	65,5	2,5	67	2,65	23,349	145	138	4	141	4,15	128,30
26	24,2	1,2	24,9	1,3	2,019	72	67,5	2,5	69	2,65	23,727	147	140	4	143	4,15	127,40
27	24,9	1,2	25,6	1,3	2,170	75	70,5	2,5	72	2,65	24,549	148	140	4	144	4,15	127,40
28	25,9	1,5	26,6	1,6	2,870	77	72,5	2,5	74,5	2,65	25,976	150	142	4	145	4,15	136,60
29	26,9	1,5	27,6	1,6	3,100	78	73,5	2,5	75,5	2,65	26,366	152	143	4	147	4,15	146,40
30	27,9	1,5	28,6	1,6	3,294	80	74,5	2,5	76,5	2,65	27,517	155	146	4	150	4,15	146,40
31	28,6	1,5	29,3	1,6	3,301	82	76,5	2,5	78,5	2,65	27,993	160	151	4	155	4,15	152,50
32	29,6	1,5	30,3	1,6	3,887	85	79,5	3	81,5	3,15	38,109	165	155,5	4	160	4,15	160,40
33	30,5	1,5	31,3	1,6	3,639	87	81,5	3	83,5	3,15	39,904	170	160,5	4	165	4,15	173,70
34	31,5	1,5	32,3	1,6	4,221	88	82,5	3	84,5	3,15	38,088	175	165,5	4	170	4,15	178,20
35	32,5	1,5	33	1,6	4,365	90	84,5	3	86,5	3,15	41,504	180	170,5	4	175	4,15	191,30
36	33,2	1,75	34	1,85	4,719	92	86,5	3	88,5	3,15	42,548	185	175,5	4	180	4,15	200,00
37	34,2	1,75	35	1,85	5,260	95	89,5	3	91,5	3,15	44,660	190	180,5	4	185	4,15	203,40
38	35,2	1,75	36	1,85	6,203	97	91,5	3	93,5	3,15	47,924	195	185,5	4	190	4,15	207,80
39	36	1,75	37	1,85	6,668	98	92,5	3	94,5	3,15	47,924	200	190,5	4	196	4,15	215,90
40	36,5	1,75	37,5	1,85	6,234	100	94,5	3	96,5	3,15	47,035						

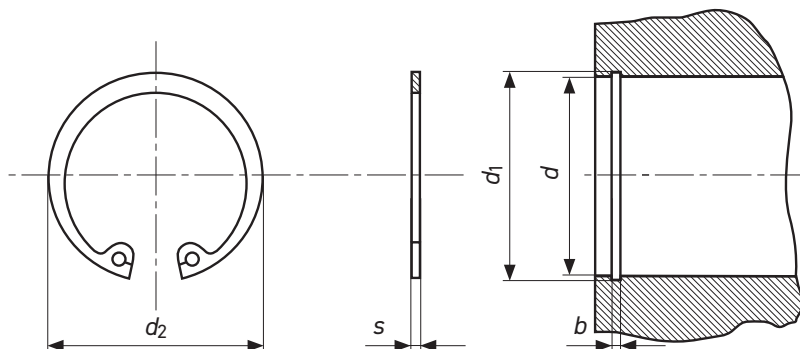
Weight for 1000 pcs

*UNI 7436 reinforced rings

For stainless steel A2 products, multiply the weight values for 1,01. The weights indicated are approximate. Other sizes available on request.

RETAINING RINGS FOR HOLES (INTERNALS)

ISO
-
UNI
7437-7438*
DIN
472



MATERIAL

SPRING STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

ACCORDING TO UNI EN 10132-4
47-54 HRC $\leq \varnothing 48$
44-51 HRC $\varnothing 50-200$

ACCORDING TO UNI EN 10088-3

CLASS

430-530 HV

AISI 420

TOLLERANCES

ACCORDING TO DIN 472

ACCORDING TO DIN 472

AVAILABLE TREATMENT

Black - Other coatings on request

Kg						Kg						Kg					
d	d ₂	s	d ₁	b		d	d ₂	s	d ₁	b		d	d ₂	s	d ₁	b	
8	8,8	0,8	8,4	0,5	0,122	44	47,5	1,75	46,5	1,85	5,135	102	108	4	106	4,15	57,48
9	9,8	0,8	9,4	0,7	0,147	45	48,5	1,75	47,5	1,85	5,777	105	112	4	109	4,15	62,29
10	10,8	1	10,4	0,8	0,267	46	49,5	1,75	48,5	1,85	6,439	108	115	4	112	4,15	67,88
11	11,8	1	11,4	0,9	0,300	47	50,5	1,75	49,5	1,85	6,517	110	117	4	114	4,15	67,96
12	13	1	12,5	0,9	0,318	48	51,5	1,75	50,5	1,85	6,792	112	119	4	116	4,15	68,60
13	14,1	1	13,6	1,1	0,372	50	54,2	2	53	2,15	8,228	115	122	4	119	4,15	73,08
14	15,1	1	14,6	1,1	0,417	51	55,2	2	54	2,15	9,370	117	124	4	121	4,15	78,50
15	16,2	1	15,7	1,1	0,478	52	56,2	2	55	2,15	8,501	118	125	4	122	4,15	78,50
16	17,3	1	16,8	1,1	0,510	53	57,2	2	56	2,15	9,210	120	127	4	124	4,15	75,06
17	18,3	1	17,8	1,1	0,557	54	58,2	2	57	2,15	9,357	122	129	4	126	4,15	83,96
18	19,5	1	19,0	1,1	0,656	55	59,2	2	58	2,15	9,584	125	132	4	129	4,15	85,18
19	20,5	1	20,0	1,1	0,687	56	60,2	2	59	2,15	9,717	127	135	4	132	4,15	89,73
20	21,5	1	21,0	1,1	0,730	57	61,2	2	60	2,15	9,970	128	135	4	132	4,15	89,73
21	22,5	1	22,0	1,1	0,810	58	62,2	2	61	2,15	10,650	130	137	4	134	4,15	91,55
22	23,5	1	23,0	1,3	0,883	60	64,2	2	63	2,15	10,990	132	139	4	136	4,15	91,70
23	24,6	1,2	24,1	1,3	1,113	62	66,2	2	65	2,15	11,370	135	142	4	139	4,15	97,60
24	25,9	1,2	25,4	1,3	1,228	63	67,2	2	66	2,15	12,531	137	145	4	141	4,15	99,20
25	26,9	1,2	26,4	1,3	1,340	65	69,2	2,5	68	2,65	16,400	138	145	4	142	4,15	99,20
26	27,9	1,2	27,4	1,3	1,464	67	71,5	2,5	70	2,65	17,750	140	147	4	144	4,15	102,50
27	29,1	1,2	28,6	1,3	1,587	68	72,5	2,5	71	2,65	17,900	142	149	4	146	4,15	103,10
28	30,1	1,2	29,6	1,3	1,630	70	74,5	2,5	73	2,65	19,190	145	152	4	149	4,15	107,20
29	31,1	1,2	30,6	1,3	1,729	72	76,5	2,5	75	2,65	20,085	147	155	4	151	4,15	112,10
30	32,1	1,2	31,6	1,3	1,808	75	79,5	2,5	78	2,65	21,25	148	155	4	152	4,15	112,10
31	33,4	1,2	32,9	1,3	1,952	77	81,5	2,5	80	2,65	23,90	150	158	4	155	4,15	114,10
32	34,4	1,2	33,9	1,6	2,640	78	82,5	2,5	81	2,65	23,90	152	161	4	157	4,15	108,35
33	35,5	1,2	35,0	1,6	2,200	80	85,5	2,5	83,5	2,65	24,87	155	164	4	160	4,15	125,10
34	36,5	1,5	36,0	1,6	3,055	82	87,5	2,5	85,5	2,65	25,57	160	169	4	165	4,15	131,90
35	37,8	1,5	37,3	1,6	3,047	85	90,5	3	88,5	3,15	31,81	165	174,5	4	170	4,15	138,00
36	38,8	1,5	38,3	1,6	3,458	87	92,5	3	90,5	3,15	34,42	170	179,5	4	175	4,15	144,50
37	39,8	1,5	39,3	1,6	3,425	88	93,5	3	91,5	3,15	34,42	175	184,5	4	180	4,15	159,50
38	40,8	1,5	40,3	1,6	3,485	90	95,5	3	93,5	3,15	36,19	180	189,5	4	185	4,15	162,20
39	42	1,5	41,5	1,6	3,620	92	97,5	3	95,5	3,15	36,51	185	191,5	4	187	4,15	171,20
40	43,5	1,75	43,0	1,85	4,653	95	100,5	3	98,5	3,15	39,26	190	199,5	4	192	4,15	175,00
41	44,5	1,75	44,0	1,85	5,287	97	100,5	3	98,5	3,15	40,00	195	204,5	4	200	4,15	184,90
42	45,5	1,75	45,0	1,85	5,553	98	102,5	3	100,5	3,15	40,00	200	209,5	4	205	4,15	188,60
43	46,5	1,75	46,0	1,85	5,701	100	105,5	3	103,5	3,15	42,11						

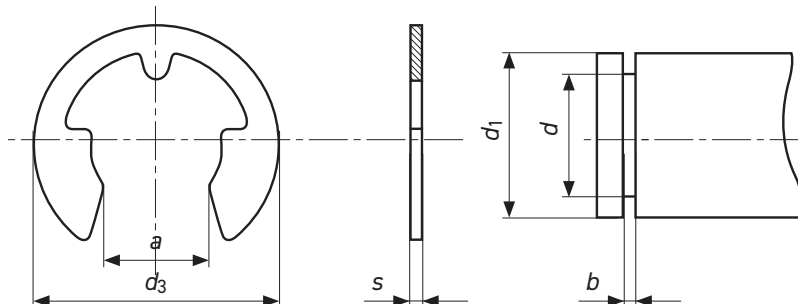
Weight for 1000 pcs

*UNI 7438 reinforced rings

For stainless steel A2 products, multiply the weight values for 1,01. The weights indicated are approximate. Other sizes available on request.

RADIAL CIRCLIPS FOR SHAFTS

ISO
-
UNI
7434
DIN
6799



MATERIAL

SPRING STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

ACCORDING TO UNI EN 10132-4
HV 460-580

ACCORDING TO UNI EN 10088-3

CLASS

430-530 HV

AISI 420

TOLLERANCES

ACCORDING TO DIN 6799

ACCORDING TO DIN 6799

AVAILABLE TREATMENT

Black - Other coatings on request

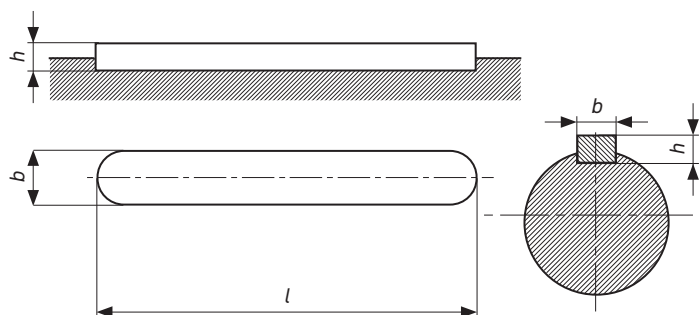
d	d ₃	s	a	d ₁	 Kg
1,5	4,25	0,4	1,28	2-2,5	0,018
1,9	4,8	0,5	1,61	2,5-3	0,027
2,3	6,3	0,6	1,94	3-4	0,061
3,2	7,3	0,6	2,7	4-5	0,076
4	9,3	0,7	3,34	5-7	0,147
5	11,3	0,7	4,11	6-8	0,221
6	12,3	0,7	5,26	7-9	0,232
7	14,3	0,9	5,84	8-11	0,413
8	16,3	1	6,52	9-12	0,617
9	18,8	1,1	7,63	10-14	0,900
10	20,4	1,2	8,32	11-15	1,141
12	23,4	1,3	10,45	13-18	1,543
15	29,4	1,5	12,61	16-24	3,065
19	37,6	1,75	15,92	20-31	5,620
24	44,6	2	21,88	25-38	8,180
30	52,6	2,5	25,8	32-42	13,550

 Weight for 1000 pcs

For stainless steel A2 products, multiply the weight values for 1,01.
The weights indicated are approximate. **Other sizes available on request.**

PARALLEL KEYS

ISO
-
UNI
6604/A
DIN
6885A



MATERIAL

STEEL HARDENED

STAINLESS STEEL

MECHANICAL PROPERTIES

MIN 590 N/mm²

According to UNI 3506

CLASS

C40

A4

TOLLERANCES

h9 on square-section parallel key
h9 on dimension b, h11 on dimension h on
rectangular-section parallel key

h9 on square-section parallel key
h9 on dimension b, h11 on dimension h on
rectangular-section parallel key

AVAILABLE TREATMENT

Plain - White zinc plated according to RoHS
Other coatings on request

$b \times h$	3x3	4x4	5x5	6x6	8x7	8x8	10x8	12x8	14x9	16x10	18x11	20x12	22x14	24x14
l														
8	0,530	0,902												
10	0,662	1,152												
12	0,804	1,402	2,139	3,065										
14	0,944	1,652	2,539	3,576										
15	1,070	1,825	2,720	3,901	5,979	—	8,48	10,26						
16	1,085	1,902	2,929	4,156	6,378	—	9,05	—						
18	1,225	2,152	3,319	4,726	7,175	—	10,18	—						
20	1,365	2,402	3,709	5,196	8,045	—	11,31	13,68	18,13					
22	1,505	2,652	4,109	5,856	8,915	—	—	—	22,57					
25	1,725	3,032	4,699	6,706	10,245	—	14,35	17,10	25,65					
28	1,935	3,412	5,289	7,546	11,545	—	—	—	28,73					
30	2,140	3,650	5,666	8,009	12,439	13,57	17,57	20,77	30,78	34,3	43,0			
32	2,215	3,912	6,069	8,676	13,345	—	—	—	32,83	—	—			
35	2,425	4,278	6,558	9,590	14,527	15,83	20,65	24,46	35,91	40,0	—			
36	2,495	4,412	6,849	9,836	15,045	—	—	—	36,94	—	—			
40	2,772	4,912	7,639	10,936	16,845	18,1	23,75	28,16	41,04	45,7	57,4	68,0		
45	3,118	5,542	8,619	12,336	19,045	20,36	26,95	31,96	46,17	52,2	64,5	76,5		
50		6,157	9,599	13,736	21,245	—	30,05	35,76	51,30	58,5	71,7	85,0		
55		—	10,572	15,160	23,419	24,88	33,24	39,54	56,43	64,3	78,8	96,5		
56		—	10,789	15,436	23,845	—	33,85	40,26	57,46	66,0	81,0	97,6		
60		7,388	11,559	16,538	25,661	—	36,42	43,39	61,56	70,7	86,5	103,0	130,0	144,0
65			12,522	18,048	27,800	—	—	47,23	66,69	77,7	95,6	—	—	—
70				19,436	30,045	—	42,65	49,48	71,82	83,7	103,0	123,9	157,6	170,0
75				20,824	32,191	—	45,70	53,02	76,95	—	110,6	—	—	—
80				22,212	34,445	—	48,85	56,55	82,08	95,7	118,0	142,9	181,3	195,0
90					38,845	—	55,15	63,62	92,34	108,7	134,0	161,9	206,6	225,0
100					43,161	—	61,45	70,69	102,60	121,7	149,0	179,9	230,6	248,0
110					51,793	—	—	—	112,86	133,7	165,0	198,9	254,6	274,0
120					56,502	—	73,90	84,83	123,12	144,0	178,0	215,0	276,0	300,0
125					—	—	—	—	128,25	152,7	188,0	226,9	290,5	315,0
130					61,210	—	80,06	91,89	133,38	157,0	195,0	232,0	300,0	328,0
140					65,918	—	86,22	98,96	143,64	171,7	212,0	255,9	326,6	352,0
150					70,627	—	92,37	10,60	—	182,0	224,0	269,0	345,0	380,0
160					—	—	—	—	—	194,1	243,0	292,9	376,5	405,0
180					—	—	—	—	—	—	—	330,9	423,6	480,0
200					—	—	—	—	—	—	—	368,9	472,6	510,0
220					—	—	—	—	—	—	—	405,8	—	—

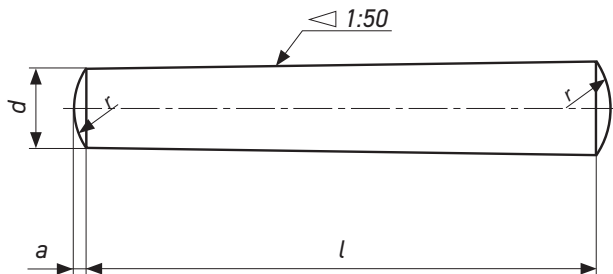
Kg

Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

TAPER PINS

ISO	UNI	DIN
2339	7283	1



MATERIAL	STEEL EN 10083
MECHANICAL PROPERTIES	45 N/mm²
CLASS	9SMnPb28
TOLLERANCES	h8
AVAILABLE TREATMENT	As machined

d	3	4	5	6	8	10	12
r	3	4	5	6	8	10	12
a max	0.45	0.6	0.75	0.9	1.2	1.5	1.8

l = LENGTH	l						
	14	0,88	1,55				
	16	1,02	1,78				
	18	1,15	2,00				 Kg
	20	1,29	2,23	3,47			
	22	1,43	2,47	3,80			
	25	1,72	2,96	4,56	6,30		
	28	1,88	3,22	4,93	7,17		
	30	2,04	3,48	5,31	7,76	13,10	
	32	2,20	3,73	5,70	8,35	14,00	21,90
	35	2,55	4,14	6,51	9,25	16,00	24,80
	40	2,88	4,84	7,30	10,30	17,80	27,60
	45	3,35	5,56	8,35	11,70	20,20	31,20
	50	3,83	6,31	9,45	13,40	22,70	34,90
	55		7,12	10,60	14,70	25,30	38,80
	60		7,94	11,80	16,30	27,80	42,50
70			14,20	19,70	33,20	50,40	
80			16,60	24,30	38,80	58,50	
90				28,40	44,50	67,00	
100					50,50	75,70	
110					57,00	84,70	
120					63,50	94,00	

 Weight for 1000 pcs

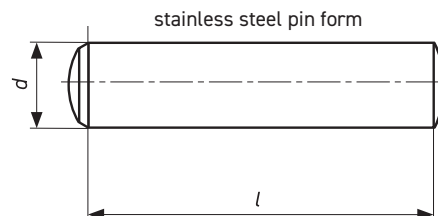
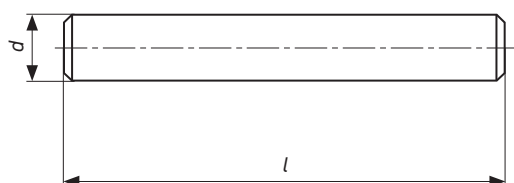
The weights indicated are approximate. **Other sizes available on request.**

DOWEL PINS

ISO
2338B

UNI
1707

DIN
7



stainless steel pin form

MATERIAL

STEEL EN 10083

STAINLESS STEEL

MECHANICAL PROPERTIES

45 N/mm²

ACCORDING TO UNI 3506

CLASS

9SMnPb28

A2

A4

TOLLERANCES

h8

m6

AVAILABLE TREATMENT

as machined

d	2	3	4	5	6	8	10	12	14	16	20
l											
6		0,36									
8	0,203	0,47	0,84								
10	0,241	0,58	1,04	1,64	2,41	4,37					
12	0,301	0,69	1,23	1,95	2,85	5,16	8,2				
14	0,351	0,8	1,44	2,26	3,29	5,95	9,5	13,8			
16	0,401	0,91	1,63	2,57	3,73	6,74	10,7	15,6			
18	0,451	1,02	1,83	2,88	4,17	7,53	11,9	17,4			
20	0,501	1,13	2,03	3,19	4,61	8,31	13,2	19,2			
22		1,24	2,23	3,50	5,05	9,09	14,5	20,9			
24		1,35	2,34	3,80	5,50	9,89	15,6	22,8			
25			2,44	3,96	5,72	10,28	16,25	23,65			
30		1,68	3,02	4,73	6,84	12,20	19,3	28,2			
32		1,79	3,13		7,29		20,4	30,1			
35			3,51	5,49	7,96	14,20	22,5	32,7			
36			3,61					33,6	44,4		
40			4	6,27	9,80	16,20	25,5	37,2	49,1	61,2	
45			4,5	7,03	10,20	18,10	28,6	41,7	52,8	69,0	
50			5	7,80	11,30	20,10	31,7	46,2	59,1	76,8	118,8
55				8,56	12,40	22,10	34,8	50,7	67,9	89,5	139,6
60				9,33	13,50	24,00	37,9	55,2	74,2	97,8	153,3
70					15,70	28,00	44,1	64,1	86,6	113,4	178,6
80					17,90	32,00	50,3	73,0	99,1	130,2	205,0
90							56,5	82,1	111,7	147,2	232,0
100							62,7	91,0	124,3	163,9	257,3
120									149,7	197,5	310,0
140											
150											

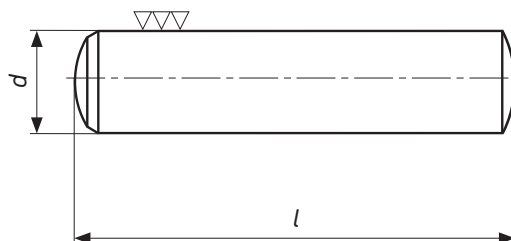
Kg

Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

TEMPERED DOWEL PINS

ISO 8734A UNI 6364A DIN 6325



MATERIAL

STEEL ISO 683-17 UNI 3097

MECHANICAL PROPERTIES

550-650 HV

CLASS

100 Cr6

TOLLERANCES

GRINDED m6

AVAILABLE TREATMENT

As machined

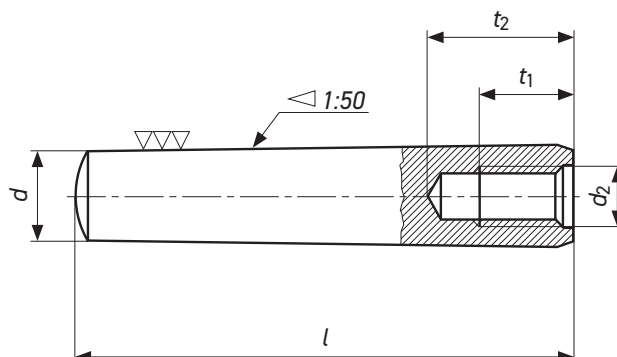
d	2	2,5	3	4	5	6	8	10	12	14	16	20
l												
8	0,20	0,30	0,40									
10	0,24	0,38	0,55	0,98								
12	0,30	0,46	0,66	1,20	1,80							
14	0,35	0,54	0,77	1,40	2,00	3,10						
16	0,40	0,60	0,88	1,60	2,50	3,50						
18	0,45	0,68	0,99	1,80	2,80	4,00	7,10					
20	0,50	0,75	1,10	2,00	3,10	4,40	7,90					
22		0,82	1,21	2,20	3,40	4,85	8,70					
24		0,91	1,30	2,40	3,70	5,30	9,50	14,80				
26			1,40	2,60	4,00	5,75	10,30	16,00				
28			1,50	2,80	4,30	6,20	11,00	17,20	24,80			
30			1,60	3,00	4,65	6,65	11,80	18,35	26,60			
32			1,70	3,20	5,00	7,10	12,60	19,70	28,40			
36				3,60	5,50	8,00	14,20	22,20	32,00	43,50		
40					6,20	8,80	15,70	24,60	35,50	48,00	63,00	
45					7,00	10,00	17,70	27,70	40,00	54,00	71,00	
50					7,70	11,00	19,70	30,80	44,40	60,40	79,00	123,00
55						12,00	21,70	33,90	48,80	66,40	87,00	135,00
60						13,00	23,70	36,90	53,20	72,50	95,00	148,00
70							27,60	43,00	62,00	84,50	110,00	172,00
80							31,50	49,30	71,00	96,60	126,00	197,00
90								55,50	80,00	108,70	142,00	222,00
100								61,60	89,00	120,80	158,00	246,00
110										132,90	174,00	270,60
120										145,00	190,00	295,00

Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

TAPER PINS WITH INTERNAL THREAD

ISO 8736A UNI 7284A DIN 7978A



MATERIAL

STEEL EN 10083

MECHANICAL PROPERTIES

45 N/mm²

CLASS

9SMnPb28

TOLLERANCES

GRINDED ISO 8736

AVAILABLE TREATMENT

As machined

d	5	6	8	10	12
d ₂	M3	M4	M5	M6	M8
t ₁	–	6	8	10	12
t ₂ min	–	10	12	16	20

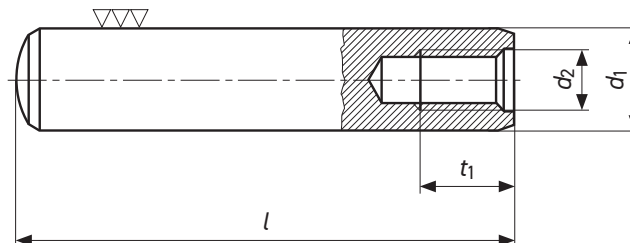
l		Kg			
l = LENGTH	20	2,82			
	24	3,05			
	28	4,01	6,16		
	30				
	32	4,57	7,25	11,33	
	36				
	40	5,87	9,25	15,09	24,61
	45	6,66	10,5	17,42	28,14
	50		12,14	19,81	31,74
	55		13,49	22,27	35,48
	60		15,03	24,67	39,16
	70			29,8	46,79
	80			35,05	54,39
	90				62,33
	100				70,46
	110				
	120				
	130				

Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

TEMPERED DOWEL PINS WITH INTERNAL THREAD

ISO 8735 UNI 6364B DIN 7979D



MATERIAL

STEEL ISO 683-17 UNI 3097

MECHANICAL PROPERTIES

550-650 HV

CLASS

100 Cr6

TOLLERANCES

GRINDED m6

AVAILABLE TREATMENT

As machined

d_1	5	6	8	10	12	14	16	20
d_2	M3	M4	M5	M6	M6	M8	M8	M10
t_1	3	6	8	10	12	14	16	18

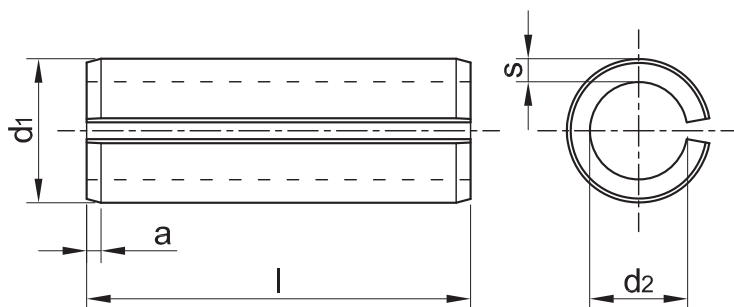
l		Kg						
l = LENGTH	16	2,04	2,79					
	18	2,29	3,3					
	20	2,55	3,67	6,4				
	24	3,05	4,55	7,98	12,2			
	28	3,56	5,43	9,56	14,7			
	30	3,81	5,87	10,35	20,8	21,3		
	32	4,08	6,31	10,3	17,2	23,1	27,6	
	36	4,59	7,19	11,9	19,7	26,7	31	
	40	5,1	8,07	13,5	22,2	30,3	34,5	52
	45	5,73	9,17	15,5	25,3	35,1	38,8	59,9
	50		10,3	17,5	28,4	39,9	43,1	67,8
	55		11,4	19,5	31,5	44,7	47,4	75,7
	60		12,5	21,5	34,6	49,5	53,1	82,8
	70			25,5	40,8	59,1	61,9	98,5
	80			29,5	47	68,7	70,8	115
	90				53,2	78,3	84,4	131
	100				59,4	87,9	93,7	147
	120						115	180
								230
								280

Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

SPRING-TYPE STRAIGHT PINS, SLOTTED, LIGHT DUTY

ISO UNI DIN
13337 6874 7346



MATERIAL

SPRING STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

ACCORDING TO UNI 7064

ACCORDING TO EN 10088-3

CLASS

422-560 HV

AISI 420

TOLLERANCES

ACCORDING TO DIN 7346

ACCORDING TO DIN 7346

AVAILABLE TREATMENT

Black - Other coatings on request

d	2	2,5	3	3,5	4	4,5	5	6	8
$d_1 \text{ nom}$	2,3	2,8	3,3	3,8	4,4	4,9	5,4	6,4	8,5
$d_1 \text{ scost. lim.}$	+0,2					+0,3			
d_2	1,9	2,3	2,7	3,1	3,4	3,9	4,4	4,9	7
s	0,2	0,25	0,3	0,35	0,5	0,5	0,5	0,75	0,75
a	0,4	0,45	0,45	0,5	0,7	0,7	0,7	0,9	1,8
Cut resistance kN	1,5	2,4	3,5	4,6	8	8,8	10,4	18	24

l									 Kg
4	0,034	0,054	0,078	0,1 06	0,168	0,193			
5	0,043	0,067	0,097	0,132	0,210	0,241	0,271		
6	0,051	0,080	0,116	0,159	0,252	0,289	0,325		
8	0,068	0,107	0,155	0,212	0,336	0,385	0,433		
10	0,085	0,134	0,193	0,264	0,420	0,481	0,541	0,93	
12	0,102	0,161	0,232	0,317	0,504	0,577	0,649	1,12	
14	0,119	0,187	0,271	0,370	0,588	0,673	0,757	1,30	
16	0,136	0,214	0,309	0,423	0,672	0,769	0,865	1,49	
18	0,153	0,241	0,348	0,476	0,756	0,865	0,973	1,67	
20	0,170	0,267	0,386	0,528	0,840	0,961	1,08	1,86	
22	0,187	0,294	0,425	0,581	0,924	1,057	1,19	2,04	
24	0,204	0,321	0,464	0,634	0,1008	1,153	1,30	2,23	
26	0,221	0,347	0,502	0,687	0,1092	1,249	1,41	2,41	
28	0,238	0,374	0,541	0,740	0,1176	1,345	1,51	2,60	
30	0,255	0,4	0,5 79	0,792	0,1260	1,441	1,62	2,78	
32			0,618	0,845	0,1344	1,537	1,73	2,97	
36			0,695	0,951	1,51	1,730	1,95	3,49	
40			0,772	1,06	1,68	1,920	2,16	3,72	
45					1,89	2,160	2,44	4,18	
50							2,7	4,65	
55							2,98	5,11	
60							3,25	5,58	
65							3,52	6,04	
70							3,79	6,51	
75							4,06	6,97	
80							4,33	7,44	
85								7,90	
90								8,37	
								8,83	
100								9,3	

d	10	12	13	14	16	18	20	21	25	28	30
d₁ nom	10,5	12,5	13,5	14,5	16,5	18,5	20,5	21,5	25,5	28,5	30,5
d₁ scost. lim.			+0,3					+0,4			
d₂	8,5	10,5	11	11,5	13,5	15	16,5	17,5	21,5	23,5	25,5
s	1	1,2	1,5	1,5	1,7	2	2	2	2,5	2,5	
a	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	3,4	3,4	3,4
Cut resistance kN	40	48	66	84	98	126	158	168	202	280	302

l

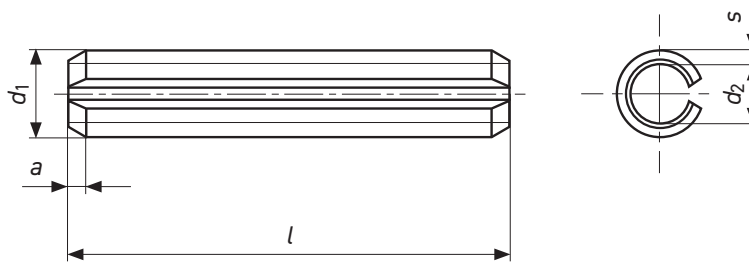
10	2,14	2,63	3,51	4,48	5,2	6,81	8,64				
12	2,57	3,16	4,22	5,37	6,25	8,18	10,04				
14	3,00	3,68	4,92	6,27	7,29	9,54	12,1	12,8	15,4	21,6	23,3
16	3,43	4,21	5,63	7,16	8,34	10,91	13,72	14,6	17,6	24,6	26,6
18	3,86	4,73	6,33	8,06	9,38	12,27	15,45	16,4	19,8	27,7	29,9
20	4,29	5,26	7,04	8,95	10,43	13,64	17,18	18,2	22	30,8	33,2
22	4,72	5,78	7,74	9,85	11,47	15	18,91	20	24,2	33,9	36,5
24	5,15	6,31	8,45	10,74	12,52	16,37	20,64	21,8	26,4	36,9	39,8
26	5,58	6,83	9,15	11,64	13,56	17,73	22,37	23,6	28,6	40	43,1
28	6,01	7,36	9,86	12,53	14,61	19,1	24,1	25,4	30,8	43,1	46,4
30	6,44	7,88	10,56	13,43	15,65	20,46	25,83	27,2	33	46,1	49,7
32	6,87	8,41	11,27	14,32	16,7	21,83	27,56	29	35,2	49,2	53
36	7,72	9,47	12,6	16,1	18,7	24,5	31,1	32,8	39,6	55,5	59,8
40	8,57	10,5	14,1	17,90	20,8	27,3	34,5	36,5	43,9	61,6	66,5
45	9,64	11,8	15,8	20,1	23,4	30,7	38,8	41	49,5	69,3	74,8
50	10,7	13,2	17,6	22,4	26	34,1	43,2	45	55	77	83,1
55	11,77	14,53	19,33	24,63	28,6	37,5	47,53	49,1	60	83,9	91,4
60	12,83	15,88	21,08	26,88	31,2	40,9	51,88	53,2	65,9	91,1	99,7
65	13,90	17,23	22,83	29,13	33,8	44,3	56,23	57,3	71,4	98,3	108
70	14,96	18,58	24,58	31,38	36,4	47,7	60,58	61,4	76,9	105,6	116,3
75	16,03	19,93	26,33	33,63	39	51,1	64,93	65,5	82,4	112,8	124,6
80	17,09	21,28	28,08	35,88	41,6	54,5	69,28	69,7	87,9	120	132,9
85	18,16	22,63	29,83	38,13	44,2	57,9	73,63	73,8	93,4	127,2	141,2
90	19,22	23,98	31,58	40,38	46,8	61,3	77,98	77,9	98,9	134,4	149,5
95	20,29	25,33	33,33	42,63	49,40	64,7	82,33	82	104,4	141,7	157,8
100	21,35	26,68	35,08	44,88	52	68,1	86,68	86,1	109,9	148,9	166,1
120							104	109	132	185	199
140							121	128	154	216	233
160							138	146	176	246	266
180							155	164	198	277	299
200							173	182	220	308	332

HEAVY DUTY SPRING PINS

ISO
8752

UNI
6873

DIN
1481



MATERIAL

SPRING STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

ACCORDING TO UNI 7064

ACCORDING TO EN 10088-3

CLASS

422-560 HV

AISI 420

TOLLERANCES

ACCORDING TO DIN 1481

ACCORDING TO DIN 1481

AVAILABLE TREATMENT

Black - Other coatings on request

d	1	1,5	2	2,5	3	3,5	4	5	6	8	10	12	14	16
$d_1 \text{ nom}$	1,2	1,7	2,3	2,8	3,3	3,8	4,4	5,4	6,4	8,5	10,5	12,5	14,5	16,5
$d_1 \text{ scost. lim.}$	+0,1					+0,2						+0,3		
d_2	0,8	1,1	1,5	1,8	2,1	2,3	2,8	3,4	3,9	5,5	6,5	7,5	8,5	10,5
s	0,2	0,3	0,4	0,5	0,6	0,75	0,8	1	1,25	1,5	2	2,5	3	3
a	0,15	0,25	0,35	0,4	0,5	0,6	0,65	0,9	1,2	2	2	2	2	2

Kg

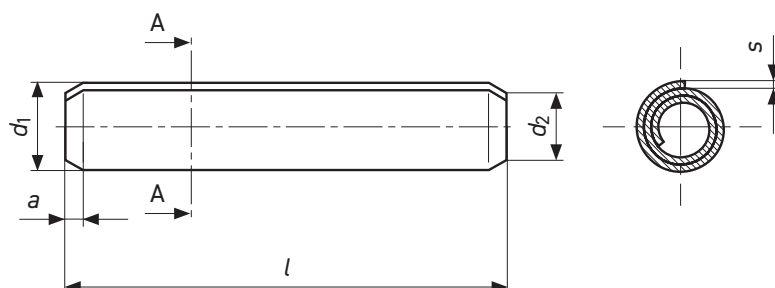
																		Kg																
l	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	36	40	45	50	55	60	65	70	75	80	90	100	120	140	160	180	200	
l = LENGTH	4	0,015	0,030	0,060	0,090	0,136	0,196	0,240																										
	5	0,019	0,043	0,077	0,118	0,170	0,246	0,299	0,471																									
	6	0,023	0,051	0,092	0,142	0,204	0,296	0,358	0,566																									
	8	0,031	0,068	0,122	0,189	0,272	0,394	0,478	0,754																									
	10	0,038	0,085	0,153	0,236	0,340	0,493	0,597	0,942	1,38	2,24	3,69	5,55	7,80	9,19																			
	12	0,045	0,103	0,184	0,283	0,408	0,591	0,717	1,130	1,66	2,66	4,43	6,66	9,35	11,00																			
	14	0,052	0,120	0,214	0,330	0,476	0,690	0,836	1,318	1,94	3,13	5,17	7,78	10,90	12,90																			
	16	0,059	0,137	0,244	0,377	0,544	0,788	0,956	1,506	2,22	3,58	5,90	8,89	12,50	14,70																			
	18	0,067	0,154	0,275	0,424	0,612	0,887	1,075	1,694	2,50	4,03	6,64	10,01	14,05	16,56																			
	20	0,076	0,171	0,305	0,471	0,680	0,985	1,195	1,882	2,78	4,47	7,38	11,12	15,62	18,40																			
	22			0,336	0,518	0,748	1,084	1,314	2,070	3,06	4,92	8,12	12,24	17,18	20,24																			
	24			0,367	0,565	0,816	1,182	1,434	2,258	3,34	5,37	8,85	13,35	18,75	22,08																			
	26			0,397	0,612	0,884	1,281	1,553	2,446	3,62	5,82	9,59	14,47	20,31	23,93																			
	28			0,427	0,659	0,952	1,379	1,673	2,634	3,90	6,27	10,33	15,58	21,88	25,77																			
	30			0,458	0,706	1,020	1,478	1,792	2,822	4,18	6,72	11,06	16,70	23,44	27,61																			
	32			0,488	0,753	1,088	1,576	1,912	3,010	4,46	7,17	11,80	17,81	25,01	29,46																			
	36			0,518	0,849	1,224	1,774	2,18	3,390	4,98	8,06	13,30	20,00	28,10	33,14																			
	40			0,548	0,945	1,360	1,972	2,39	3,770	5,54	8,95	14,80	22,20	31,20	36,80																			
	45					1,496	2,170	2,68	4,240	6,23	10,10	16,60	25,00	35,10	41,30																			
	50					1,632	2,368	2,98	4,710	6,92	11,20	18,40	27,80	39,00	45,90																			
55					1,768	2,566	3,27	5,180	7,61	12,33	20,30	30,60	42,90	50,43																				
60					1,904	2,764	3,57	5,650	8,30	13,46	22,13	33,40	46,80	55,00																				
65							3,86	6,120	8,99	14,58	23,98	36,20	50,70	59,70																				
70							4,16	6,590	9,68	15,71	25,83	39,00	54,60	64,31																				
75							4,45	7,060	10,37	16,83	27,68	41,80	58,50	68,94																				
80							4,75	7,530	11,06	17,96	29,53	44,60	62,40	73,58																				
90								8,450	12,46	20,56	33,20	50,00	70,20	82,70																				
100								9,370	13,86	22,40	36,90	55,50	77,90	91,90																				
120										27,25	44,30	66,50	93,30	110,00																				
140											51,70	77,50	108,70	129,00																				
160											59,10	88,50	124,10	147,00																				
180												99,50	139,50	165,00																				
200														154,90																				

Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

SPIRAL SPRING PINS

ISO 8750 UNI 6875 DIN 7343



MATERIAL

SPRING STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

ACCORDING TO UNI 7064

ACCORDING TO EN 10088-3

CLASS

422-560 HV

AISI 420

TOLLERANCES

ACCORDING TO DIN 7343

ACCORDING TO DIN 7343

AVAILABLE TREATMENT

Black

d	2	2,5	3	3,5	4	5	6	8	10	12	14	16
a ≈	0,7	0,8	1	1,2	1,3	1,7	2	3	3	4	4,5	5
s	0,17	0,21	0,25	0,29	0,33	0,42	0,5	0,67	0,84	1	1,2	1,3
d1	2,15	2,65	3,15	3,67	4,2	5,25	6,25	8,35	10,45	12,5	14,55	16,55
toll.	+0,1	+0,15	+0,15	+0,17	+0,2	+0,25	+0,25	+0,25	+0,35	+0,35	+0,4	+0,45
	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0
d2	1,9	2,35	2,85	3,35	3,8	4,8	5,8	7,75	9,6	11,5	13,5	15,4
toll.	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
	-0,15	-0,15	-0,15	-0,2	-0,2	-0,3	-0,4	-0,5	-0,6	-0,7	-0,9	-1

l	Kg											
6	0,09	0,15										
8	0,12	0,19	0,27	0,36	0,50							
10	0,15	0,24	0,33	0,45	0,60	0,93						
12	0,18	0,29	0,40	0,55	0,71	1,11	1,61					
14	0,22	0,34	0,47	0,64	0,83	1,29	1,87					
16	0,25	0,39	0,53	0,73	0,95	1,47	2,14					
18	0,28	0,44	0,60	0,82	1,07	1,66	2,40	4,27				
20	0,31	0,48	0,67	0,90	1,19	1,84	2,67	4,73	7,38			
22		0,58	0,74	1,00	1,31	2,03	2,93	5,21	8,10			
24			0,80	1,09	1,43	2,21	3,20	5,68	8,85	12,80		
26			0,87	1,18	1,55	2,40	3,47	6,15	9,60	13,90		
28			0,93	1,27	1,67	2,58	3,74	6,63	10,30	14,90		
30			1,00	1,36	1,79	2,77	4,00	7,09	11,10	16,00		
32			1,07	1,46	1,91	2,95	4,27	7,58	11,80	17,10	23,70	
36					2,14	3,32	4,80	8,53	13,30	19,20	26,60	
40					2,38	3,69	5,33	9,46	14,80	21,40	29,60	37,60
45					2,64	4,15	6,00	10,60	16,60	24,00	33,30	41,30
50					2,97	4,61	6,60	11,80	18,40	26,70	37,00	45,80
55						5,07	7,33	13,00	20,30	29,40	40,70	50,40
60						5,53	7,99	14,20	22,10	32,00	44,40	55,00
65							8,66	15,40	24,00	34,70	48,10	59,06
70							9,32	16,60	25,80	37,40	51,80	64,10
75												
80								18,90	29,50	42,70	59,20	73,40
85												
90								21,30	33,20	48,00	66,60	82,50
95												
100								23,60	36,90	53,40		

Weight for 1000 pcs

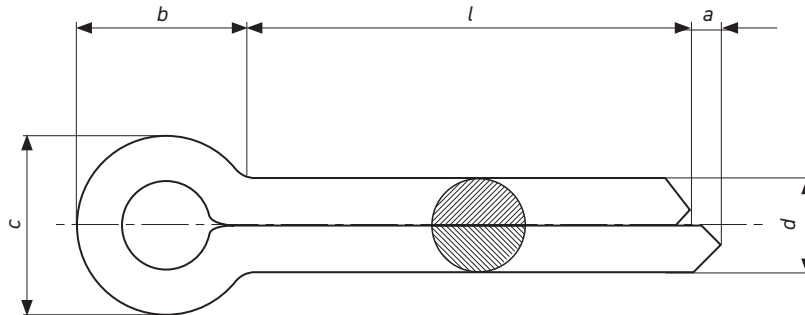
The weights indicated are approximate. **Other sizes available on request.**

SPLIT PINS

ISO
1234

UNI
1336

DIN
94



MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

30 N/mm²

ACCORDING TO ISO 3506

CLASS

3.6

A2

TOLLERANCES

Ø (1mm) H13
Ø (1,5 - 13 mm) H14

Ø (1mm) H13
Ø (1,5 - 13 mm) H14

AVAILABLE TREATMENT

White zinc plated, Yellow zinc plated according to RoHS -
Other coatings on request

d	1	1,5	2	2,5	3	4	5	6	8	10	13
d min	0,8	1,3	1,7	2,1	2,7	3,5	4,4	5,7	7,3	9,3	12,1
d max	0,9	1,4	1,8	2,3	2,9	3,7	4,6	5,9	7,5	9,5	12,4
c min	1,6	2,4	3,2	4	5,1	6,5	8	10,3	13,1	16,6	21,7
c max	1,8	2,8	3,6	4,6	5,8	7,4	9,2	11,8	15	19	24,8
b	3	3,2	4	5	6,4	8	10	12,6	16	20	26
a max	1,6	2,5	2,5	2,5	3,2	4	4	4	4	6,3	6,3

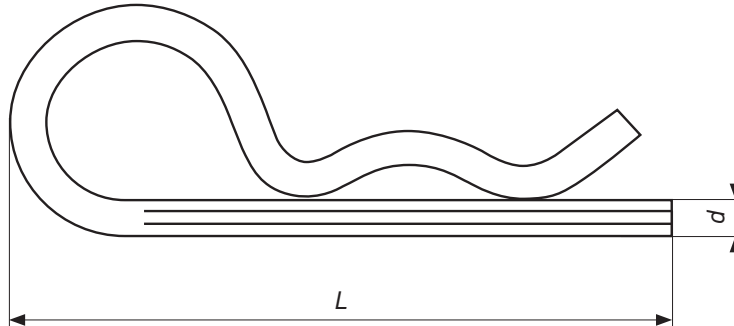
l = LENGTH	l											Kg
	10	15	20	25	30	35	40	45	50	60	70	
	0,05	0,14										
	0,08	0,20	0,34	0,58	0,96	1,69	2,80					
	0,10	0,26	0,44	0,74	1,22	2,11	3,46					
	0,13	0,32	0,54	0,90	1,48	2,53	4,11					
	0,15	0,38	0,64	1,07	1,74	2,95	4,76	8,2				
	0,18	0,44	0,74	1,23	2,00	3,37	5,41	9,2				
	0,20	0,50	0,84	1,39	2,25	3,80	6,06	10,3	17,7	30,0		
	0,23	0,56	0,94	1,56	2,51	4,22	6,72	11,4	19,4	32,8		
	0,25	0,62	1,04	1,72	2,77	4,64	7,37	12,4	21,1	35,6		
				2,05	3,29	5,48	8,67	14,6	24,6	41,2		
					3,81	6,33	9,98	16,7	28,1	46,7		
					4,33	7,17	11,28	18,9	31,5	52,3		
						8,01	12,58	21,0	35,0	57,8	102,8	
						8,86	13,89	23,2	38,5	63,4	112,3	
							15,19	25,3	41,9	69,0	121,8	
										74,5	131,2	

Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

"R" SLIT PINS

ISO UNI DIN
- - -



MATERIAL

SPRING STEEL

STAINLESS STEEL

AVAILABLE TREATMENT

Plain, White zinc plated according to RoHS
Other coatings on request

CLASS

C70

A2

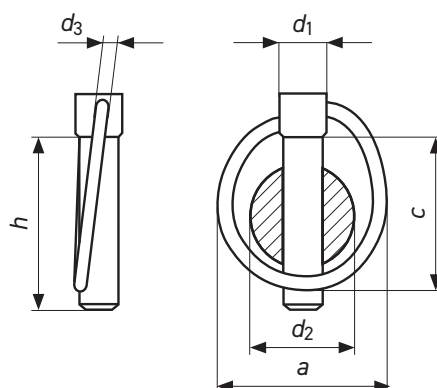
d	L	
1,8	35	nd
2	50	2,30
2,5	58	3,30
3	61	8,30
3,5	80	11,70
4	76	16,60
4,5	100	26,90
5	100	32,70
5,5	114	n d
6	114	50,70
8	162	nd
10	162	nd

 Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

LINCH PINS

ISO	UNI	DIN
-	-	11023



RING MATERIAL

SPRING STEEL

SHAFT MATERIAL

CARBON STEEL

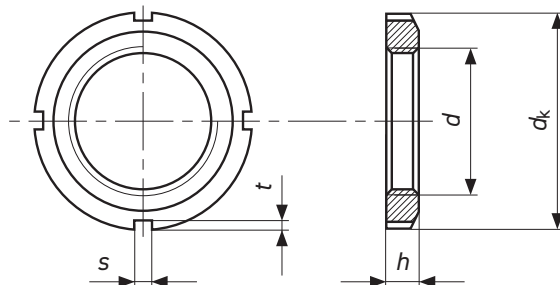
AVAILABLE TREATMENT

Yellow zinc plated according to RoHS - Other coatings on request

d_1	h	$d_2 \text{ max}$	d_3	a	c
4,5	32	25	3,5	41	37
6	40	32	3,5	41	37
7	40	32	3,5	41	37
8	40	32	3,5	41	37
9,5	40	32	3,5	41	37
10	40	32	3,5	41	37
11	40	32	3,5	41	37

KM SLOTTED ROUND NUTS

ISO UNI DIN
- - 981



MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

30 N/mm²

ACCORDING TO ISO 3506-1

CLASS

5S

AISI 304

TOLLERANCES

ACCORDING TO ISO 4759 CAT A

ACCORDING TO ISO 4759 CAT A

AVAILABLE TREATMENT

Plain - Other coatings on request

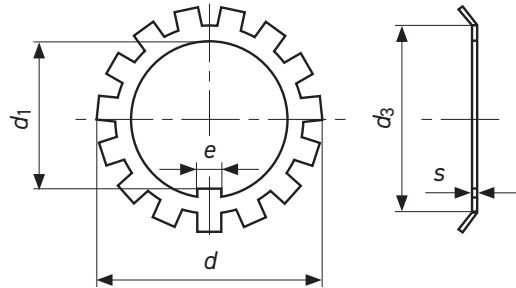
tipo type	KM	d	d _k	t	s	h	p	 Kg
0		M 10	18	2	3	4	0,75	4,0
1		M 12	22	2	3	4	1	7,2
2		M 15	25	2	4	5	1	9,7
3		M 17	28	2	4	5	1	13,6
4		M 20	32	2	4	6	1	21,8
5		M 25	38	2	5	7	1,5	31,6
6		M 30	45	2	5	7	1,5	42,6
7		M 35	52	2	5	8	1,5	65,1
8		M 40	58	2,5	6	9	1,5	86,5
9		M 45	65	2,5	6	10	1,5	122,0
10		M 50	70	2,5	6	11	1,8	138,0
11		M 55	75	3	7	11	2	160,0
12		M 60	80	3	7	11	2	172,0
13		M 65	85	3	7	12	2	201,0
14		M 70	92	3,5	8	12	2	256,0
15		M 75	98	3,5	8	13	2	306,0
16		M 80	105	3,5	8	15	2	400,0
17		M 85	110	3,5	8	16	2	460,0
18		M 90	120	4	10	16	2	580,0
19		M 95	125	4	10	17	2	672,0
20		M 100	130	4	10	18	2	736,0

Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

TOOTH WASHERS TYPE MB

ISO
-
UNI
-
DIN
5406



MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

ACCORDING TO UNI EN ISO 10025

ACCORDING TO EN 10088-3

CLASS

100 HV

AISI 420

TOLLERANCES

ACCORDING TO ISO 4759-3

ACCORDING TO ISO 4759-3

AVAILABLE TREATMENT

Plain - Other coatings on request

type	MB	d_1	d	s	d_3	e	 Kg
0	M 10	21	21	1	13,5	3	0,13
1	M 12	25	25	1	17	3	0,19
2	M 15	28	28	1	21	4	1,25
3	M 17	32	32	1	24	4	0,31
4	M 20	36	36	1	26	4	0,35
5	M 25	42	42	1,25	32	5	0,64
6	M 30	49	49	1,25	38	5	0,78
7	M 35	57	57	1,25	44	5	1,04
8	M 40	62	62	1,25	50	6	1,23
9	M 45	69	69	1,25	56	6	1,52
10	M 50	74	74	1,25	61	6	1,60
11	M 55	81	81	1,5	67	8	1,96
12	M 60	86	86	1,5	73	8	2,53
13	M 65	92	92	1,5	79	8	2,90
14	M 70	98	98	1,5	85	8	3,34
15	M 75	104	104	1,5	90	8	3,56
16	M 80	112	112	1,75	95	10	4,64
17	M 85	119	119	1,75	102	10	5,24
18	M 90	126	126	1,75	108	10	6,23
19	M 95	133	133	1,75	113	10	6,70
20	M 100	142	142	1,75	120	12	7,65

 Weight for 1000 pcs

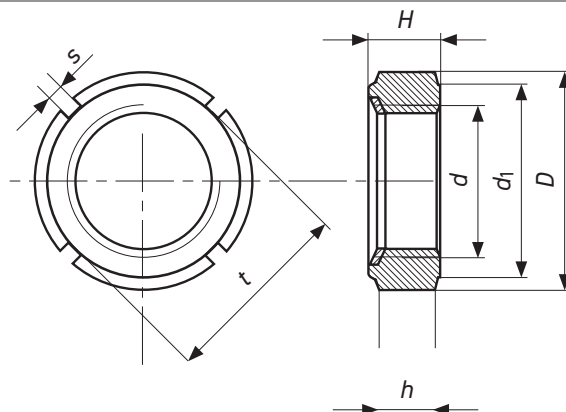
The weights indicated are approximate. **Other sizes available on request.**

SLOTTED ROUND LOCKING NUTS FOR HOOK SPANNER TYPE GN

ISO

UNI

DIN



MATERIAL

STEEL

MECHANICAL PROPERTIES

30 N/mm²

CLASS

5S

TOLLERANCES

ACCORDING TO ISO 4759-3

AVAILABLE TREATMENT

Plain - Other coatings on request

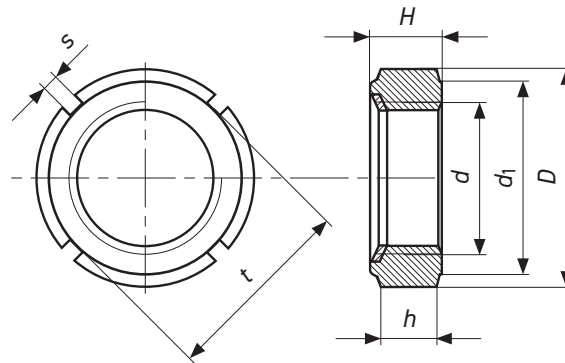
type	GN	d x pitch	D	d ₁ = t	H	h	s	p	Kg
0		M 10x0,75	18	15	7,4	4,5	3	0,75	7,0
1		M 12x1	21	18	7,4	4,5	3	1	9,6
2		M 15x1	24	21	8,4	5,5	4	1	12,5
3		M 17x1	28	24	8,4	5,5	4	1	17,5
4		M 20x1	32	27	9,4	6,5	4	1	25,2
5		M 25x1,5	38	33	10,3	6,5	5	1,5	35,5
6		M 30x1,5	44	38	10,9	6,5	5	1,5	45,6
7		M 35x1,5	50	44	11,1	7	5	1,5	59,3
8		M 40x1,5	56	50	12,1	8,2	6	1,5	86,0
9		M 45x1,5	62	55	12,1	8,2	6	1,5	93,8
10		M 50x1,5	68	81	12,7	8,5	6	1,5	113,0
11		M 55x2	75	68	13,2	8,5	7	2	144,0
12		M 60x2	80	73	13,2	8,5	7	2	161,0
13		M 65x2	85	77	14,3	9,5	7	2	199,0
14		M 70x2	92	84	14,3	9,5	8	2	216,0
15		M 75x2	98	89	15,3	10,5	8	2	266,0
16		M 80x2	105	96	16,3	11,5	8	2	336,0
17		M 85x2	110	100	17,3	12,5	8	2	373,0
18		M 90x2	120	110	17,5	12,5	10	2	475,0
19		M 95x2	125	115	18,5	13,5	10	2	525,0
20		M 100x2	130	120	19,5	14,5	10	2	589,0

 Weight for 1000 pcs

The weights indicated are approximate. Other sizes available on request.

SLOTTED ROUND LOCKING NUTS FOR HOOK SPANNER HEAVY TYPE GP

ISO UNI DIN



MATERIAL

STEEL

MECHANICAL PROPERTIES

ACCORDING TO UNI EN ISO 10025

CLASS

5S

TOLLERANCES

ACCORDING TO ISO 4759-3

AVAILABLE TREATMENT

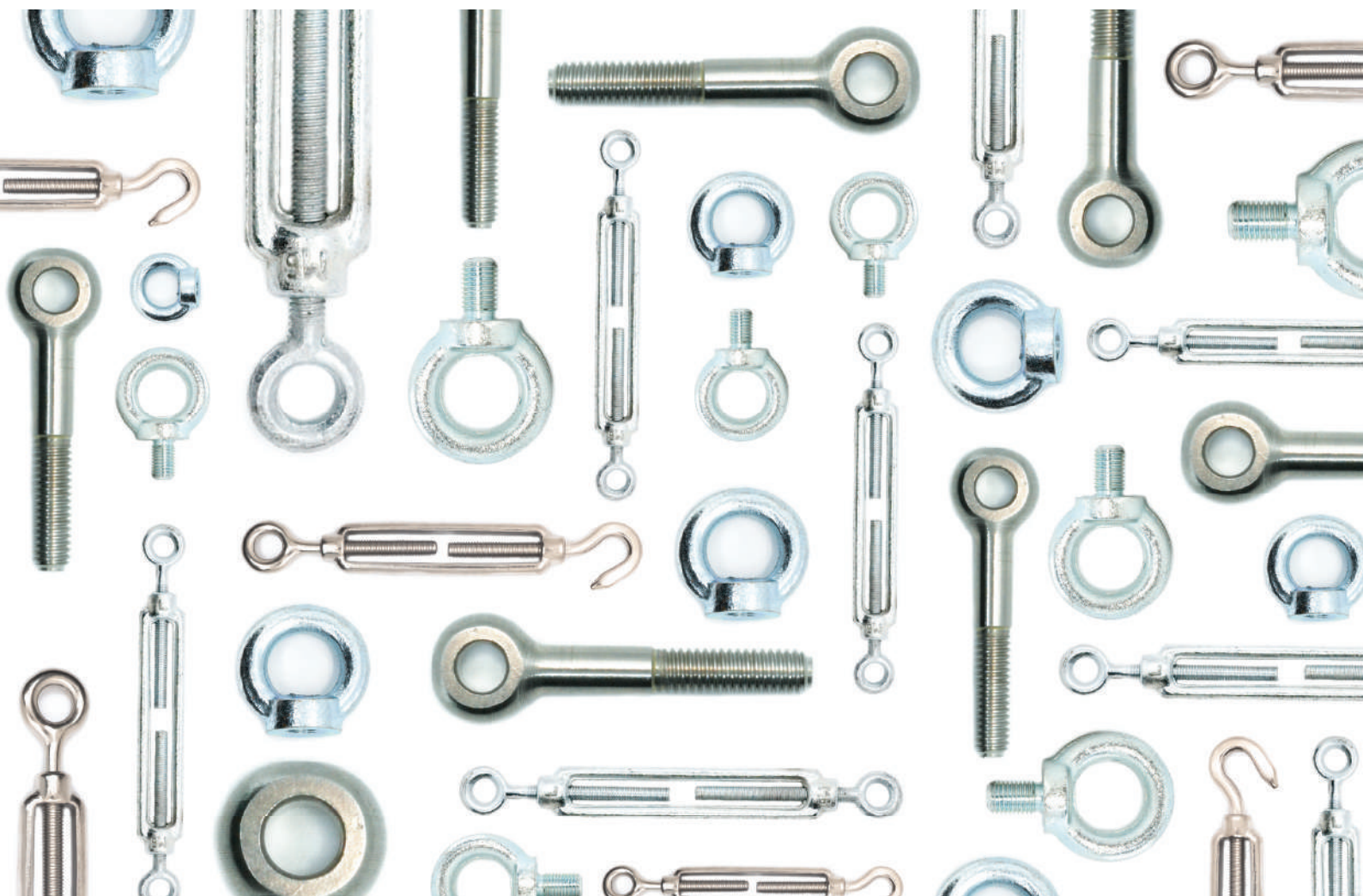
Plain - Other coatings on request

type	GP	d x pitch	D	d ₁ = t	H	h	s	p	 Kg
4		M 20x1	32	27	13	9,5	4	1	40
5		M 25x1,5	38	33	14	10,5	5	1,5	51
6		M 30x1,5	44	38	14	10,5	5	1,5	65
7		M 35x1,5	50	44	15	11	5	1,5	89
8		M 40x1,5	56	50	16,5	12	6	1,5	115
9		M 45x1,5	62	55	16,5	12,2	6	1,5	139
10		M 50x1,5	68	61	18,5	12,5	6	1,5	186
11		M 55x2	75	68	18,5	12,5	7	2	218
12		M 60x2	80	73	18,5	13,5	7	2	255
13		M 65x2	85	77	19	14,5	7	2	280
14		M 70x2	92	84	19	14,5	8	2	345
15		M 75x2	98	89	20,5	15	8	2	400
16		M 80x2	105	96	20,5	16,5	8	2	425
17		M 85x2	110	100	21,5	17,5	8	2	472
18		M 90x2	120	110	21,5	18,5	10	2	620
19		M 95x2	125	115	22	19,5	10	2	680
20		M 100x2	130	120	24	20,5	10	2	750

 Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

EYEBOLTS, TURNBUCKLES AND LIFTING



Eyebolts and turnbuckles are essential components for lifting, anchoring, and tensioning operations in industrial, construction, nautical, and logistics applications.

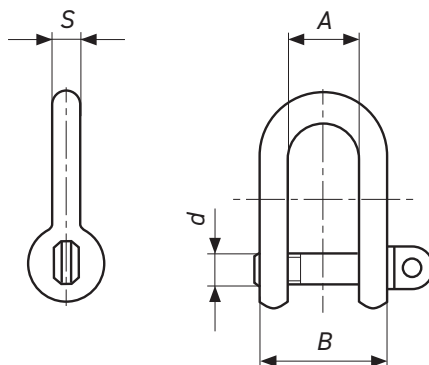
Male eyebolts are externally threaded metal rings designed to be screwed directly into threaded holes on structures or machinery. They are used for the safe lifting of loads, equipment, or components, ensuring strength and reliability thanks to their robust construction and precision threading. Female eyebolts, on the other hand, feature an internal thread and are used in combination with male pins or bolts, offering greater flexibility in removable fastening systems. Both types are available in different materials and sizes to suit various load capacities and comply with lifting safety regulations.

Two-eye turnbuckles are mechanical devices designed to adjust the tension of ropes, cables, chains, or rigid rods. Thanks to their ring ends, they can be easily connected to other system components and allow for precise tension adjustment, improving structural stability or load balance.

The combination of eyebolts and turnbuckles is indispensable in many technical contexts where safe and controlled management of tensile and lifting forces is required. Finally, shackles, thimbles, and wire rope clips are indispensable in lifting systems and with steel cables, ensuring safety and reliability even in demanding environments.

SHACKLES

ISO UNI DIN
- - 82101 A



MATERIAL

STEEL

STAINLESS STEEL

TOLLERANCES

ACCORDING TO ISO 4759

ACCORDING TO ISO 4759

CLASS

Fe430

A4

AVAILABLE TREATMENT

White zinc plated or Yellow zinc plated according to RoHS
- Other coatings on request

misura size	A	B	d	S	S.W.L.Ton.*	 Kg
5	7	15	M5	5	0,10	13,0
6	8	18	M6	6	0,16	24,0
8	11	25	M8	8	0,25	45,0
10	14	30	M10	10	0,40	90,0
12	17	37	M12	12	0,63	170,0
16	21	47	M16	15	1,00	360,0

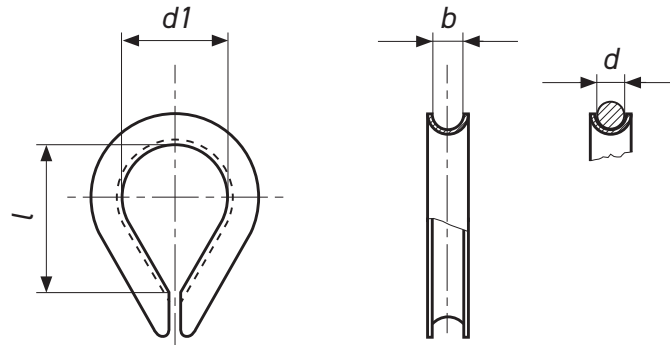
 Weight for 1000 pcs

(*) Work load

The weights indicated are approximate. **Other sizes available on request.**

THIMBLES

ISO UNI DIN
- - 6899 A



MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

45 N/mm²

ACCORDING TO ISO 3506

CLASS

Fe360B

A4

AVAILABLE TREATMENT

White zinc plated or Yellow zinc plated according to RoHS
- Other coatings on request

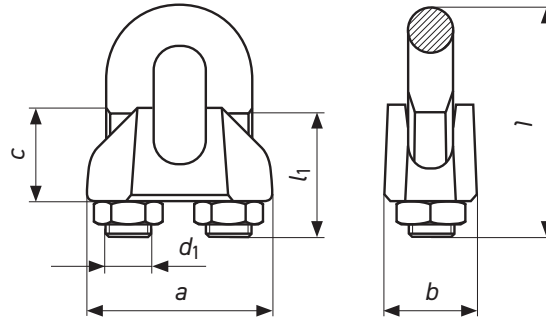
d	d1	l	b	 Kg
2,5	10	21,5	3	1,40
3,5	12	26,5	4	3,80
4	13	28,5	5	4,20
5	14	30	6	8,00
6	15	33	7	8,10
7	16	35	8	11,00
8	18	39	9	17,00
9	20	43	10	21,00
10	22	47,5	11	35,00
11	24	51,5	12	37,00
12	26	56,5	13	52,50
13	28	61	14	72,50
15	32	68,5	16	83,30
16	35	78	18	179,00
18	40	86,5	20	270,00
20	44	95	22	355,00

 Weight for 1000 pcs

The weights indicated are approximate. **Other sizes available on request.**

CAST IRON WIRE ROPE CLIPS

ISO 13411-5 UNI - DIN 741



MATERIAL

STEEL UNI EN 10025

MECHANICAL PROPERTIES

45 N/mm²

CLASS

Fe360B*/230JR

TOLLERANCES

ACCORDING TO ISO 4759

AVAILABLE TREATMENT

White zinc plated according to RoHS
Other coatings on request

size	wire / Ø	d ₁	a	b	c	l	l ₁	 Kg
3	3 - 1/8"	M4	21	10	10	20	12	10
5	5 - 3/16"	M5	24	11	10	24	13	20
6	6,5 - 1/4"	M5	26	12	11	28	15	20
8	8 - 5/16"	M6	30	14	15	34	19	20
10	10	M8	37	20	19	42	22	60
11	11 - 7/16"	M8	38	20	20	44	22	60
12	13 - 1/2"	M10	44	25	23	55	30	110
14	14	M10	46	25	25	57	30	120
16	16 - 5/8"	M12	52	28	28	63	33	150
19	19	M12	58	32	34	75	38	230
22	22	M14	64	35	35	85	44	270
26	26	M14	68	38	38	95	45	300
30	30	M16	80	40	45	110	50	500
32	32	M16	80	40	45	118	50	650
34	34	M16	88	45	52	120	55	680
40	40	M16	95	48	58	140	60	860

 Weight for 1000 pcs

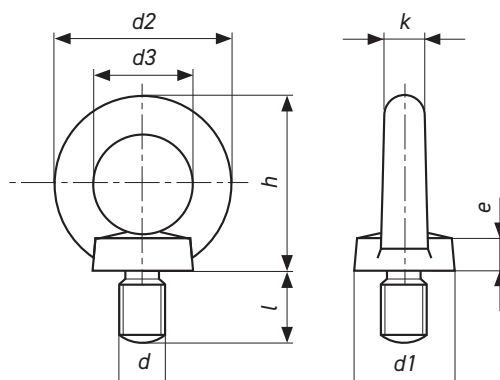
(*) Clips

The weights indicated are approximate. **Other sizes available on request.**

LIFTING EYE BOLTS

ISO METRIC COARSE THREAD AND FINE THREAD

ISO UNI DIN
- 2947 580



MATERIAL

HARDENED STEEL

STAINLESS STEEL

TOLLERANCES

ACCORDING TO DIN 7526

CLASS

C15

A2

A4

AVAILABLE TREATMENT

Plain - White zinc plated or Yellow zinc plated according to RoHS - Other coatings on request

d	d3	d2	d1	e	l	passo thread	k	carico max max load	Kg	Kg
										
M 6	36	20	20	6	13	1	8	90	60	
M 8	36	20	20	6	13	1,25	8	140	95	60
M 10	45	25	25	6	17	1,5	10	230	170	110
M 12	54	30	30	10	20,5	1,75	12	340	240	180
M 14	54	30	30	10	20,5	2	12	500	350	
M 16	63	35	35	12	27	2	14	700	500	280
M 18	63	35	35	12	27	2,5	14	930	651	
M 20	72	40	40	14	30	2,5	16	1200	830	450
M 22	72	40	40	14	30	2,5	16	1500	1050	
M 24	90	50	50	18	36	3	20	1800	1270	740
M 27	98	54	62	20	40	3	22	2500	1750	
M 30	108	60	65	22	45	3,5	24	3600	2600	1660
M 33	108	60	65	22	45	3,5	24	4200	2940	
M 36	126	70	75	26	54	4	28	5100	3700	2650
M 36	126	70	75	26	54	3	28	5100	3700	2650
M 42	144	80	85	30	63	4,5	32	7000	5000	4030
M 42	144	80	85	30	63	3	32	7000	5000	4030
M 48	166	90	100	35	68	5	38	8600	6100	6380
M 48	166	90	100	35	68	3	38	8600	6100	6380

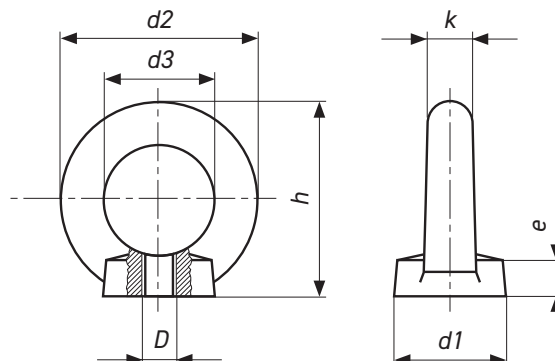
 Weight for 1000 pcs

For stainless steel A2 products, multiply the weight values for 1,01, A4 by 1,013.
The weights indicated are approximate. **Other sizes available on request.**

LIFTING EYE NUTS

ISO METRIC COARSE THREAD AND FINE THREAD

ISO UNI DIN
- 2948 582



MATERIAL

HARDENED STEEL

STAINLESS STEEL

TOLLERANCES

ACCORDING TO DIN 7526

CLASS

C15

A2

A4

AVAILABLE TREATMENT

Plain - White zinc plated or Yellow zinc plated according to RoHS - Other coatings on request

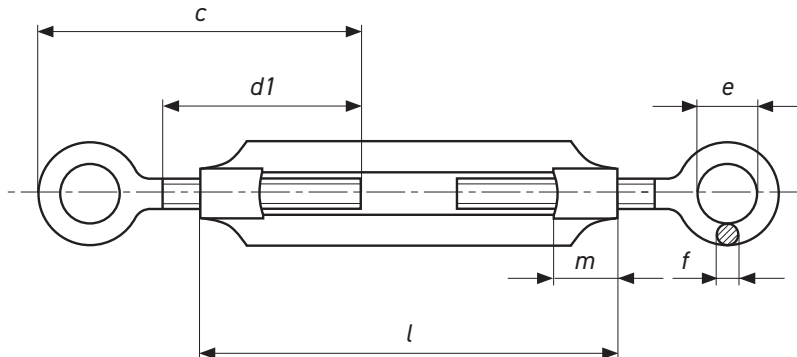
D	d1	d2	d3	e	h	k	carico max max load		Kg
									
M 6	20	36	20	8,5	36	8	90	60	
M 8	20	36	20	8,5	36	8	140	95	50
M 10	25	45	25	10	45	10	230	170	90
M 12	30	54	30	11	53	12	340	240	160
M 14	30	54	30	11	53	12	500	350	
M 16	35	63	35	13	62	14	700	500	240
M 18	35	63	35	13	62	16	830	651	
M 20	40	72	40	16	71	16	1200	830	360
M 22	40	72	40	16	71	16	1500	1050	
M 24	40	72	40	20	90	20	1800	1270	720
M 27	40	72	40	20	90	20	2500	1750	
M 30	65	108	60	25	109	24	3600	2600	1320
M 36	75	126	70	30	128	28	5100	3700	2080
M 42	85	144	80	35	147	32	7000	5000	3110
M 48	100	166	90	40	168	38	8600	6100	5020
M 56	110	184	100	45	187	42	11500	8050	6690
M 64	120	206	110	50	208	48	16000	11200	9300

 Weight for 1000 pcs

For stainless steel A2 products, multiply the weight values for 1,01, A4 by 1,013.
The weights indicated are approximate. **Other sizes available on request.**

TURNBUCKLES EYE-EYE*

ISO UNI DIN
- - 1480



MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

45 N/mm²

CLASS

Fe430

A4

TOLLERANCESS

According to UNI 4159 CAT A

AVAILABLE TREATMENT

Plain, White zinc plated according to RoHS - Other coatings on request

d	m	l	c	d1	e	f	S.W.L. Kg **	 Kg
M 6	12	110	74	50	10	4	225	58
M 8	15	110	80	52	11	5	410	115
M 10	18	125	97	60	14	6,5	650	230
M 12	21	125	106	67	17	8	930	415
M 14	23	140	126	83	18	8,5	1320	650
M 16	27	170	160	97	23	13	1770	820
M 20	34	200	190	116	25	14	2700	1530
M 22	36	220	200	120	30	16	3300	2250
M 24	39	255	210	125	34	17	3920	2750

 Weight for 1000 pcs

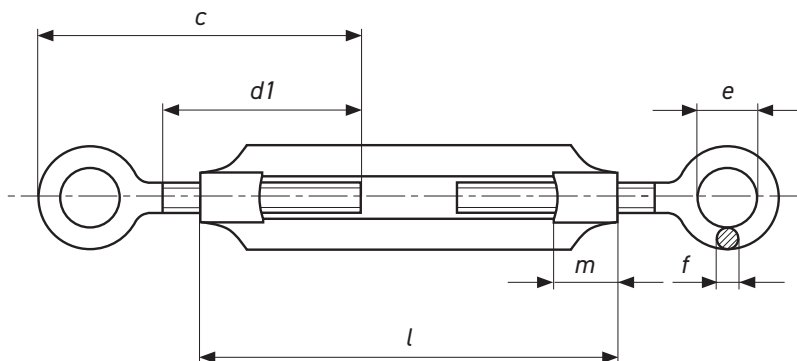
(*)Other solutions available Eye/Hook, Hook/Hook, Fork/Terminal, 2 Sections

(**) Work load

The weights indicated are approximate. **Other sizes available on request.**

TURNBUCKLES EYE-EYE*

ISO UNI DIN
- - 1480



MATERIAL	STEEL	STAINLESS STEEL
MECHANICAL PROPERTIES	45 N/mm ²	
CLASS	Fe430	A4
TOLLERANCESS	According to UNI 4159 CAT A	
AVAILABLE TREATMENT	Plain, White zinc plated according to RoHS - Other coatings on request	

d	m	l	c	d1	e	f	S.W.L. Kg **	 Kg
M 6	12	110	74	50	10	4	225	58
M 8	15	110	80	52	11	5	410	115
M 10	18	125	97	60	14	6,5	650	230
M 12	21	125	106	67	17	8	930	415
M 14	23	140	126	83	18	8,5	1320	650
M 16	27	170	160	97	23	13	1770	820
M 20	34	200	190	116	25	14	2700	1530
M 22	36	220	200	120	30	16	3300	2250
M 24	39	255	210	125	34	17	3920	2750

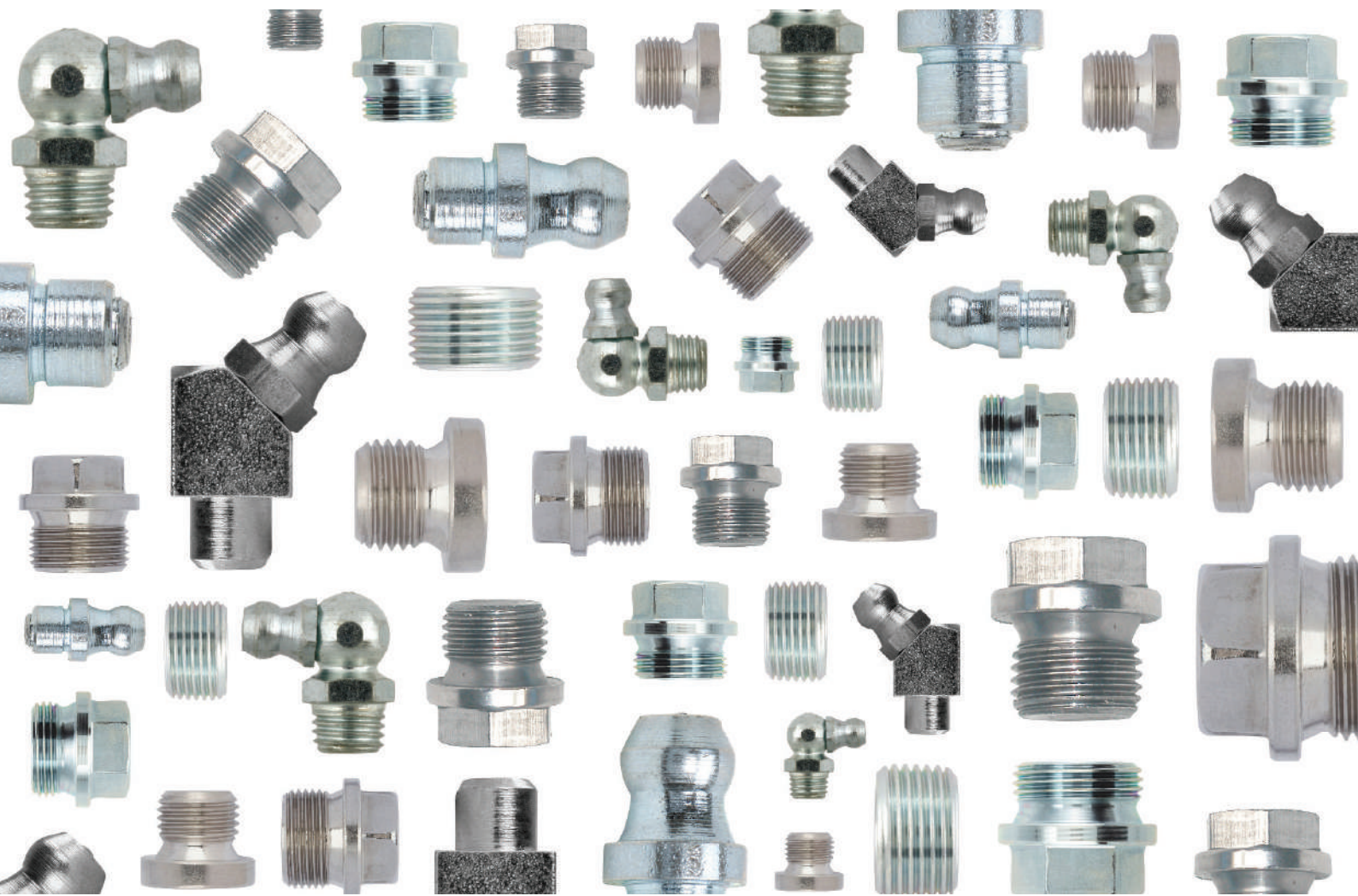
(*)Other solutions available Eye/Hook, Hook/Hook, Fork/Terminal, 2 Sections

(**) Work load

The weights indicated are approximate. **Other sizes available on request.**

 Weight for 1000 pcs

CAPS AND GREASE NIPPLES



Plugs and grease fittings are essential components in industrial mechanics and in the maintenance of machinery and equipment.

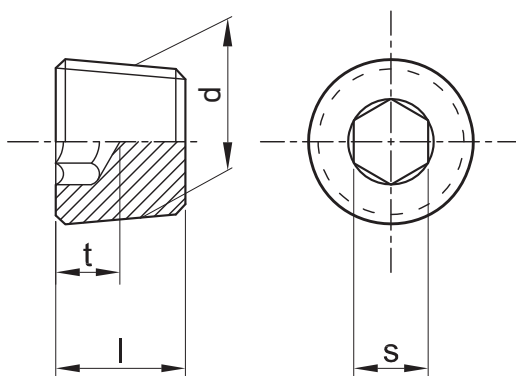
Among the most commonly used plugs are conical plugs with hex socket, ideal for secure closures resistant to high pressures, thanks to their shape that ensures reliable sealing even in demanding applications. Cylindrical head plugs with hex socket, on the other hand, provide a compact and functional solution, making tightening and loosening easier in confined spaces typical of complex systems or compact machines.

Another widely used type is the hex head plug with collar, which combines a firm grip with an effective stop against the component surface, offering a stable closure and additional protection against the infiltration of dirt or fluids.

Finally, grease fittings are essential elements to ensure proper and continuous lubrication at critical points of mechanical systems. They allow the precise and safe injection of grease, increasing the durability and efficiency of moving parts. Available in various shapes and sizes, they adapt to every maintenance requirement, helping to reduce wear and operational costs of equipment.

INTERNAL DRIVE PIPE PLUG WITH CONICAL THREAD HEX SOCKET

ISO UNI DIN
- - 906



MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

According to UNI EN 10277, 10263-3

According to UNI EN ISO 3506-1

CLASS

5.8

A2

A4

TOLLERANCESS

According to UNI 4759-1

According to UNI 4759-1

AVAILABLE TREATMENT

Plain, phosphated, White zinc plated according to RoHS -
Other coatings on request

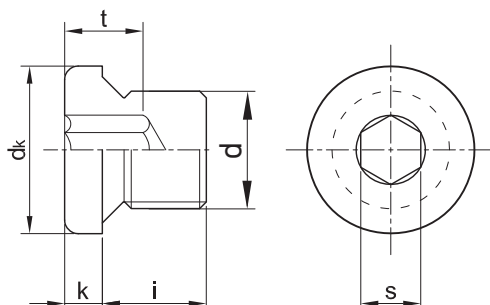
d	s	t _{min}	l	Kg
M 6x1	4	4	8	0,85
M 8x1	4	4	8	2,07
M 10x1	5	4	8	3,38
M 12x1,5	6	5	10	6,1
M 14x1,5	7	5	10	8,1
M 16x1,5	8	5	10	11,0
M 18x1,5	8	5	10	14,6
M 20x1,5	10	5	10	17,6
M 22x1,5	10	5	10	22,0
M 24x1,5	12	6	12	30,8
M 26x1,5	12	6	12	38,6
M 27x2	12	6	12	40,2
M 30x1,5	17	6	12	44
M 33x1,5	17	6	12	57,5
M 36x1,5	19	7,5	15	85,2
M 38x1,5	19	7,5	15	94,4
M 42x1,5	22	11,5	18	135
1/8"	5	4	8	3,4
1/4"	7	s	10	7
3/8"	8	5	10	12,2
1/2"	10	5	10	19
3/4"	12	6	12	40,2
1"	17	6	12	57,5
1" 1/4	22	11,5	18	135
1" 1/2	24	11,5	20	214

 **Design for 1000 pieces**

For stainless steel A2 products, multiply the weight values for 1,01, A4 by 1,013.
The weights indicated are approximate. **Other sizes available on request.**

INTERNAL DRIVE PIPE PLUG WITH CONICAL COLLAR CYLINDRICAL HEX SOCKET

ISO UNI DIN
- - 908



MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

According to UNI EN 10277, 10263-3

According to UNI EN ISO 3506-1

CLASS

5.8

A2

A4

TOLLERANCESS

According to UNI 4759-1

According to UNI 4759-1

AVAILABLE TREATMENT

Plain, phosphated, White zinc plated according to RoHS -
Other coatings on request

d	s	t	dk	k	i	Kg
M 8x1	3	2,4	12	3	8	-
M 10x1	5	5	14	3	8	6,3
M 12x1,5	6	7	17	3	12	11,3
M 14x1,5	6	7	19	3	12	16
M 16x1,5	8	7,5	21	3	12	19
M 18x1,5	8	7,5	23	4	12	28,3
M 20x1,5	10	7,5	25	4	14	37,5
M 22x1,5	10	7,5	27	4	14	47,5
M 24x1,5	12	7,5	29	4	14	53,5
M 26x1,5	12	9	31	4	16	68,7
M 27x2	12	9	32	4	16	73,5
M 30x1,5	17	9	36	4	16	84
M 30x2	17	9	36	4	16	84
M 33x1,5	17	9	39	5	16	111
M 36x1,5	9	10,5	42	5	16	134
M 36x2	19	10,5	42	5	16	134
M 38x1,5	19	10,5	42	5	16	149
M 42x1,5	22	10,5	49	5	16	187
M 45x1,5	22	10,5	52	5	16	215
M 48x1,5	24	10,5	55	5	16	246
M 52x1,5	24	10,5	60	5	16	302
M 52x2	32	10,5	64	5	16	302
M 56x2	32	14	72	5	20	386
M 64x2	32	14	72	5	20	530
1/8"	5	5	14	3	8	6,3
1/4"	7	7	18	3	12	14,6
3/8"	8	7,5	22	3	12	21,4
1/2"	10	7,5	26	4	14	40,8
3/4"	12	9	32	4	16	73,5
1"	17	9	39	5	16	111
1" 1/8	19	10,5	44	5	16	149
1" 1/4	22	10,5	49	5	16	187
1" 1/2	24	10,5	55	5	16	246
1" 3/4	3	14	62	5	20	320
2"	32	14	68	5	20	445

Weight for 1000 pcs

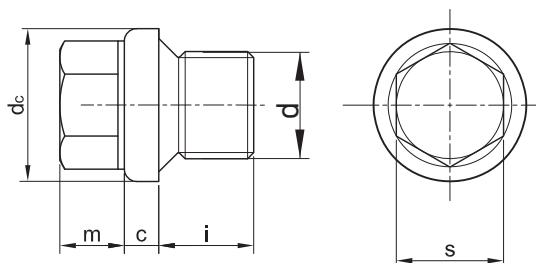
For stainless steel A2 products, multiply the weight values for 1,01, A4 by 1,013.

The weights indicated are approximate. **Other sizes available on request.**

THE DATA CONTAINED ARE NOT BINDING. THE COMPANY RESERVES THE RIGHT TO CHANGE THE INFORMATION CONTAINED HEREIN WITHOUT PRIOR NOTICE. Copyright VIPA s.p.a.

HEX HEAD SCREW PLUG WITH COLLAR CYLINDRICAL THREAD

ISO UNI DIN
- - 910



MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

According to UNI EN 10277, 10263-3

According to UNI EN ISO 3506-1

CLASS

5.8

A2

A4

TOLLERANCESS

According to UNI 4759-1

According to UNI 4759-1

AVAILABLE TREATMENT

Plain, phosphated, White zinc plated according to RoHS -
Other coatings on request

d	c	d _c	m	s	i	 Kg
M 10x1	3	14	6	10	8	8,6
M 12x1,5	3	17	6	13	12	14,6
M 14x1,5	3	19	6	13	12	18
M 16x1,5	3	21	6	17	12	25,3
M 18x1,5	4	23	6	17	12	34,9
M 20x1,5	4	25	8	19	14	46,4
M 22x1,5	4	27	8	19	14	52,8
M 24x1,5	4	29	9	22	14	67,3
M 26x1,5	4	31	10	24	16	86,4
M 27x2	4	32	10	24	16	91,4
M 30x1,5	4	36	10	24	16	106,5
M 30x2	4	36	10	24	16	106,4
M 33x1,5	5	39	11	27	16	140,4
M 36x1,5	5	42	11	27	16	158,4
M 36x2	5	42	11	27	16	158,4
M 38x1,5	4	44	11	27	16	171,3
M 42x1,5	5	49	12	30	16	-
M 42x2	5	49	12	30	16	-
M 45x1,5	5	49	12	30	16	-
M 45x2	5	55	12	30	16	-
M 48x1,5	5	52	12	30	16	-
M 48x2	5	55	12	30	16	-
M 52x1,5	5	60	12	30	16	-
M 56x2	5	64	15	15	36	-
M 64x2	5	72	15	15	36	-
1/8" GAS	3	14	6	10	8	8,6
1/4" GAS	3	18	6	13	12	17,1
3/8" GAS	3	22	6	17	12	27,4
1/2" GAS	4	26	8	19	14	47,9
3/4" GAS	4	32	10	24	16	91,4
1" GAS	5	39	11	27	16	140,4

 Weight for 1000 pcs

For stainless steel A2 products, multiply the weight values for 1,01, A4 by 1,013.
The weights indicated are approximate. **Other sizes available on request.**

GREASE NIPPLES

ISO UNI DIN
- 7663 71412

MATERIAL

STEEL

STAINLESS STEEL

MECHANICAL PROPERTIES

According to UNI EN ISO 898-1

According to UNI EN ISO 3506-1

CLASS

5.8

A4

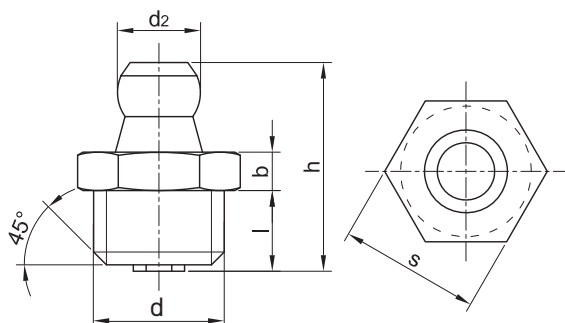
TOLLERANCES

According to UNI 4759-1

According to UNI EN ISO 4759-1

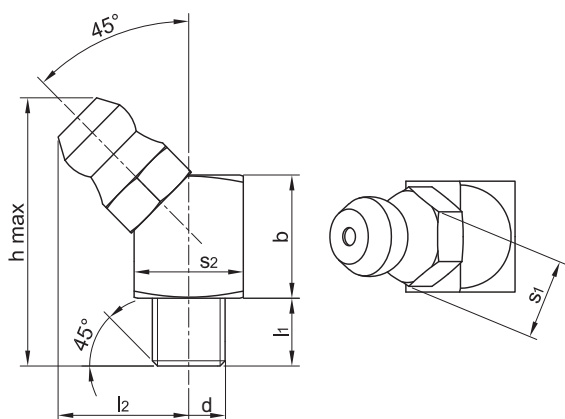
AVAILABLE TREATMENT

Plain, White zinc plated according to RoHS - Other coatings on request



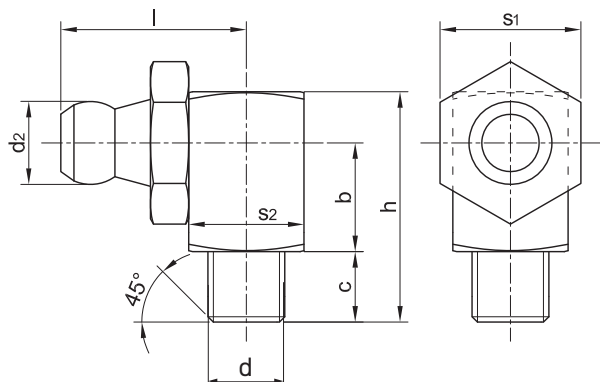
TYPE A

d	h max	l	d2	b	s
M 6x1	16	5,5	6,5	3	7/9
M 8x1	16	5,5	6,5	3	9
M 10x1	16	5,5	6,5	3	11
1/8"	16	5,5	6,5	3	11
1/4"	16	5,5	6,5	3	14



TYPE B 45°

d	h max	l1	l2	b	s1	s2
M 6x1	21	5,5	10	10	7	7
M 8x1	21	5,5	10	10	9	9
M 10x1	21	5,5	11	10	11	11



TYPE C 90°

d	h max	l	c	b	s1	s2
M 6x1	18	14,3	5,5	8,5	9	9
M 8x1	18	14,3	5,5	8,5	9	9
M 8x1,5	18	14,3	5,5	8,5	9	9
M 10x1	18	15,3	5,5	8,5	11	11