

Annex D
(normative)

RDs associated with physical objects

D.1 Overview

This annex presents the specification of RDs whose parameters are determined as a result of measurements of a physical object. Parameter values are specified by value or by reference. Parameters specified by reference use the terminology of the cited references. Those terms are enclosed in brackets ({ }). Referenced values in length units other than metres are converted to metres to specify the corresponding RD parameter. The zero value of flattening for a sphere RD is a precise value.

Abbreviated forms used in labels in this annex are defined in [Annex F](#).

D.2 RDs

The elements of a physical object RD specification are defined in [Table 7.9](#). [Table D.1](#) is a directory of RDs associated with physical objects and is organized by the type of RD surface. The RD entries in each table are grouped by physical object type and then ordered alphabetically by their label. [Table D.1](#) includes RDs specified in this annex and deprecated RDs specified in [Annex J](#).

Table D.1 — RD specification directory

RD specification table	Tables
Oblate ellipsoid RD specifications	Table D.2 and Table J.2
Sphere RD specifications	Table D.3 and Table J.3
Prolate ellipsoid RD specifications	Table D.4 and Table J.4
Tri-axial ellipsoid RD specifications	Table D.5 and Table J.5

Table D.2 — Oblate ellipsoid RD specifications

RD label	RD code	Description	Parameters			Date	References
			Major semi-axis, a	Flattening, f	Error estimate		
Object type: Earth							
AIRY_1830	17	Airy	6 377 563,396	1/299,324 964 6	Assumed precise	1830	[NGA36, App. C-1, "AA"]
APL_4r5_1968	20	APL 4.5	6 378 144	1/298,23	Unknown	1968	[DIGEST, Table 6.1, "AP"]
AUSTRALIAN_NATIONAL_1966	23	Australian National	6 378 160	1/298,25	Assumed precise	1966	[ISOGR, Identifier 29]
AVERAGE_TERRESTRIAL_1977	24	Average Terrestrial System	6 378 135	1/298,257	Unknown	1977	[ISOGR, Identifier 26]
BESSEL_1841_ETHIOPIA	26	Bessel (Ethiopia, Indonesia, Japan, and Korea)	6 377 397,155	1/299,152 812 8	Assumed precise	1841	[NGA36, App. C-1, "BR"]
BESSEL_1841_NAMIBIA	27	Bessel (Namibia)	6 377 483,865	1/299,152 812 8	Assumed precise	1841	[NGA36, App. C-1, "BN"]
BESSEL_MODIFIED	156	Bessel - modified	6 377 492,018	1/299,152 812 8	Unknown	1841	[DIGEST, Table 6.1, "BM"]
CLARKE_1858	33	Clarke	6 378 235,6	1/294,260 676 8	Unknown	1858	[DIGEST, Table 6.1, "CA"]
CLARKE_1858_MODIFIED	34	Clarke - modified	6 378 293,645	1/294,26	Unknown	1858	[DIGEST, Table 6.1, "CB"]
CLARKE_1866	35	Clarke	6 378 206,4	1/294,978 698 2	Assumed precise	1866	[NGA36, App. C-1, "CC"]
CLARKE_1880	36	Clarke	6 378 249,145	1/293,465	Assumed precise	1880	[NGA36, App. C-1, "CD"]

RD label	RD code	Description	Parameters			Date	References
			Major semi-axis, a	Flattening, f	Error estimate		
CLARKE_1880_CAPE	37	Clarke - Cape	6 378 249,145	1/293,466 307 7	Unknown	1880	[DIGEST, Table 6.1, "CE"]
CLARKE_1880_FIJI	38	Clarke - Fiji	6 378 301	1/293,465	Unknown	1880	[DIGEST, Table 6.1, "CJ"]
CLARKE_1880_IGN	39	Clarke - IGN	6 378 249,2	1/293,466 020 8	Assumed precise	1880	[NGA36, App C-1, "CG"]
CLARKE_1880_PALESTINE	40	Clarke - Palestine	6 378 300,782	1/293,466 307 7	Unknown	1880	[DIGEST, Table 6.1, "CF"]
CLARKE_1880_SYRIA	41	Clarke - Syria	6 378 247,842	1/293,466 351 7	Unknown	1880	[DIGEST, Table 6.1, "CI"]
DANISH_1876	45	Danish - Andrae	6 377 104,430	1/300	Unknown	1876	[DIGEST, Table 6.1, "DA"]
DELAMBRE_1810	47	Delambre	6 376 985,228	1/308,64	Unknown	1810	[DIGEST, Table 6.1, "DB"]
EVEREST_1948	57	Everest 1948 definition (West Malaysia and Singapore)	6 377 304,063	1/300,801 7	Assumed precise	1948	[NGA36, App. C-1, "EE"]
EVEREST_1956	58	Everest 1956 definition (India)	6 377 301,243	1/300,801 7	Assumed precise	1956	[NGA36, App. C-1, "EC"]
EVEREST_1969	60	Everest 1969 definition (West Malaysia)	6 377 295,664	1/300,801 7	Assumed precise	1969	[NGA36, App. C-1, "ED"]
EVEREST_ADJ_1937	56	Everest 1830 - adjusted (India)	6 377 276,345	1/300,801 7	Assumed precise	1937	[NGA36, App. C-1, "EA"]
EVEREST_BRUNEI_1967	61	Everest 1830 - 1967 definition (Brunei and East Malaysia - Sabah and Sarawak)	6 377 298,556	1/300,801 7	Assumed precise	1967	[NGA36, App. C-1, "EB"]