

NMRA STANDARDS

S-1.3 Standards for Scales with deep flanges

NMRA STANDARD	
General	
Scales with Deep Flanges	
July 2009	S-1.3

Scales with deep flanges were developed to accommodate the needs of modelers who wish to operate model trains on very sharp curves or on track that has twists which is common in outdoor environments.

Compromises are often made to both selectively compress the model and/or develop mechanisms that have the ability to navigate very sharp curves. In general models in this class use wheels with larger flanges and usually use track with a larger code size.

NAME OF SCALE		SCALE		TRACK GAUGE		TRACK CODE SIZE	REMARKS
Alpha Numeric	Common/ Fractional	TO FOOT	PROPORTION	Min	Max	Min	
LS_{df}	Varied	Varied	Varied	1.770" (45.00 mm)	1.793" (45.54 mm)	225	Notes 1,2
O_{df}	1/4"	.250" (6.35 mm)	1:48	1.25" (31.75 mm)	1.285" (32.64 mm)	175	Note 1
O₂₇	Same as O _{df} but models are generally 10% smaller running on the same track gauge but with 27" diameter curves						
S_{df}	3/16"	.188" (4.76 mm)	1:64	.883" (22.43 mm)	.905" (22.99 mm)	125	Note 1
HO_{df}	3,5mm	.188" (4.76 mm)	1:87.1	.649" (16,5 mm)	.661" (16,54 mm)	100	Note 1
N_{df}		.075" (1.91 mm)	1:160	.358" (8,97 mm)	.364" (9,07 mm)	83	Note 1
Z_{df}		.055" (1,40mm)	1:220	.250" (6,35 mm)	.260" (6,60 mm)	60	Note 1

Notes:

1. Models built to the deep flange standards typically do not operate on track built to the S-3.1 or S.3.2 standards unless the trackwork has been built to accommodate the deeper flanges. Models built to the S-1.3 standards shall be clearly labeled in order to not confuse the modeler.
2. The term LS (Large Scales) is used to refer to range of scales developed to be able to be operated together, typically in an outdoors setting, for example a garden. LS models all use the same wheel and track profiles to facilitate interchange.