

British Standard Glossary of

Building and civil engineering terms

Part 2. Civil engineering

Section 2.4 Highway and railway engineering

Subsection 2.4.2 Railway engineering

Glossaire de la construction et des travaux publics

Partie 2. Travaux publics

Section 2.4 Construction de routes et de chemins de fer

Sous-section 2.4.1 Construction de chemins de fer

Begriffe für den Hoch- und Tiefbau

Teil 2. Tiefbau

Abschnitt 2.4 Autobahn- und Eisenbahnbau

Unterabschnitt 2.4.2 Eisenbahnbau

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Foreword

This Subsection of Part 2 of BS 6100 has been prepared under the direction of the Basic Data and Performance Criteria for Civil Engineering and Building Structures Standards Committee. This Subsection, which includes the majority of terms relating to railway engineering, covers that branch of civil engineering concerned with the planning, design, construction and maintenance of railways. The terms given in the 'Vocabulary of terms used by the Permanent Way Department' published by the International Union of Railways (UIC)* were taken into consideration.

A general introduction to and explanation of this glossary is given in Part 0 of BS 6100 which itemizes the Parts, Sections and Subsections into which this glossary is divided, and provides a general alphabetical index of all the terms in the Sections and Subsections already published. Those using individual Sections and Subsections of this glossary are urged to consult Part 0 when doing so.

The other Sections of this Part are as follows.

- 2.1 Structural design and elements
- 2.2 Sub-structures. Earthworks. Foundations. Tunnels
- 2.3 Superstructures. Bridges. Large span structures
- 2.5 Hydraulic engineering and construction work
- 2.6 Natural waters. Inland. Coastal. Marine
- 2.7 Public health. Environmental engineering
- 2.8 Pipelines. Ducts

The other Subsection of this Section is as follows.

- 2.4.1 Highway engineering

Terms are listed alphabetically in the index and are referred to by numbers which are found against the term in the

body of the Subsection. There they are arranged in a classified order, each term having an individual number consisting of seven digits in two parts, the first of three digits, the second of four. The first three digits represent the number of the Part, Section and Subsection. The fourth digit represents the group of terms, the fifth digit represents the subgroup of terms and the last two digits represent the place within the subgroup.

Alternative terms are given in medium type below the preferred terms with their status indicated, e.g. 'deprecated', 'regional'. These terms are not individually numbered, but are included in the index with a reference to the preferred term. Terms of more than one word, e.g. 'crossing baseplate' are written in a direct style, not as 'baseplate, crossing'. The inverted term is included in the index with a reference to the direct term.

It is to be noted that, while this Section deals with the more basic terms connected with civil engineering, many of the head terms relating to more specific aspects will occur only in the other, relevant Sections.

Italicized words in definitions indicate terms that are defined elsewhere in this Subsection.

NOTE. The titles of the publications referred to in this standard are listed on the inside back cover.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

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Glossary of building and civil engineering terms
Part 2. Civil engineering
Section 2.4 Highway and railway engineering
Subsection 2.4.2 Railway engineering

Revised text

AMD 7252
August 1992

Title

Delete the existing Section title and substitute the following.

'Section 2.4 Highway, railway and airport engineering'.

In the translations, delete the existing translations of the Section title and substitute the following.

'Section 2.4 Construction de routes, de chemins de fer et d'aéroports

Sous-section 2.4.2 Construction de chemins de fer

Abschnitt 2.4 Straßen-, Eisenbahn- und Flugplatzbau'

AMD 7252
August 1992

Subgroup 242 22 Type of track

For term 242 2217, delete the existing text and substitute the following.

'242 2217	track panel track section <i>deprecated</i>	Prefabricated assembly of <i>rails</i> , concrete or timber <i>sleepers</i> and fastenings.'
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For term 242 2218, delete the existing text and substitute the following.

'242 2218	slab track	<i>Rails</i> and fittings fixed to <i>sleepers</i> or precast concrete panels embedded in an in situ reinforced concrete slab, or <i>rails</i> and fittings fixed to an in situ reinforced concrete slab.'
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AMD 7252
August 1992

Subgroup 242 31 Rails

For term 242 3104, in the definition, delete 'BS 11' and substitute 'the relevant standard'.

AMD 7252
August 1992

Subgroup 242 41 Switch types

For term 242 4101, delete the existing text and substitute the following.

'242 4101	straight planed switch	<i>Switch</i> that contains a <i>straight planed switch rail</i> (see figure 15).'
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For term 242 4104, in the definition, delete '*switch entry angle*' and substitute '*switch toe entry angle*'.

3 7252
ust 1992

Subgroup 242 52 Crossing components

For term 242 5202, delete the existing text and substitute the following.

242 5202 **wing rail** Short length of angled *rail* fastened to *switch rail* or *obtuse crossing point rail* (see figures 1 and 9).'

D 7252
ust 1992

Subgroup 242 61 Structures

For term 242 6101, in the definition, delete '*railway*' and substitute 'way'.

For term 242 6102, in the definition, delete '*railway*' and substitute 'way'.

3 7252
ust 1992

Subgroup 242 62 Installations

For term 242 6209, delete the existing text and substitute the following.

242 6209 **hump** High point on a *track* to enable *railway* vehicles to move by gravity.'

For term 242 6212, delete the existing text and substitute the following.

242 6212 **buffer stop** Assembly provided at the end of a length of *track* to stop vehicles.'
stop block *deprecated*

For term 242 6213, delete the existing text and substitute the following.

242 6213 **wagon tippler** Installation with mechanism for tipping a *railway* wagon to discharge its contents, usually coal or aggregate.'

ID 7252
gust 1992

Subgroup 242 71 Gauges

For term 242 7103, in the definition, insert 'significantly' before 'less than'.

ID 7252
gust 1992

Subgroup 242 72 Geometry

For term 242 7204, delete the existing text and substitute the following.

'242 7204 **compound curve** Curve that consists of two or more arcs of different radii curving in the same direction and having a common tangent or *transition curve* between them.'

For term 242 7205, at the end of the definition, insert 'or its mirror image'.

For term 242 7213, delete the existing text and substitute the following.

'242 7213 **vertical curve** Curve on the longitudinal profile of a way.'

AMD 7252
August 1992

Subgroup 242 74 Design gaps

For term 242 7409, in the definition, insert 'adjacent' before '*sleepers*'.

AMD 7252
August 1992

Subgroup 242 77 Track defects

For term 242 7702, delete the existing text and substitute the following.

'242 7702 high spot

Location on *track* where top of *rail* is above the general longitudinal profile.'

AMD 7252
August 1992

Figure 10 Switch diamond crossing (diagrammatic)

Delete the existing figure 10 and substitute the new figure 10 attached.

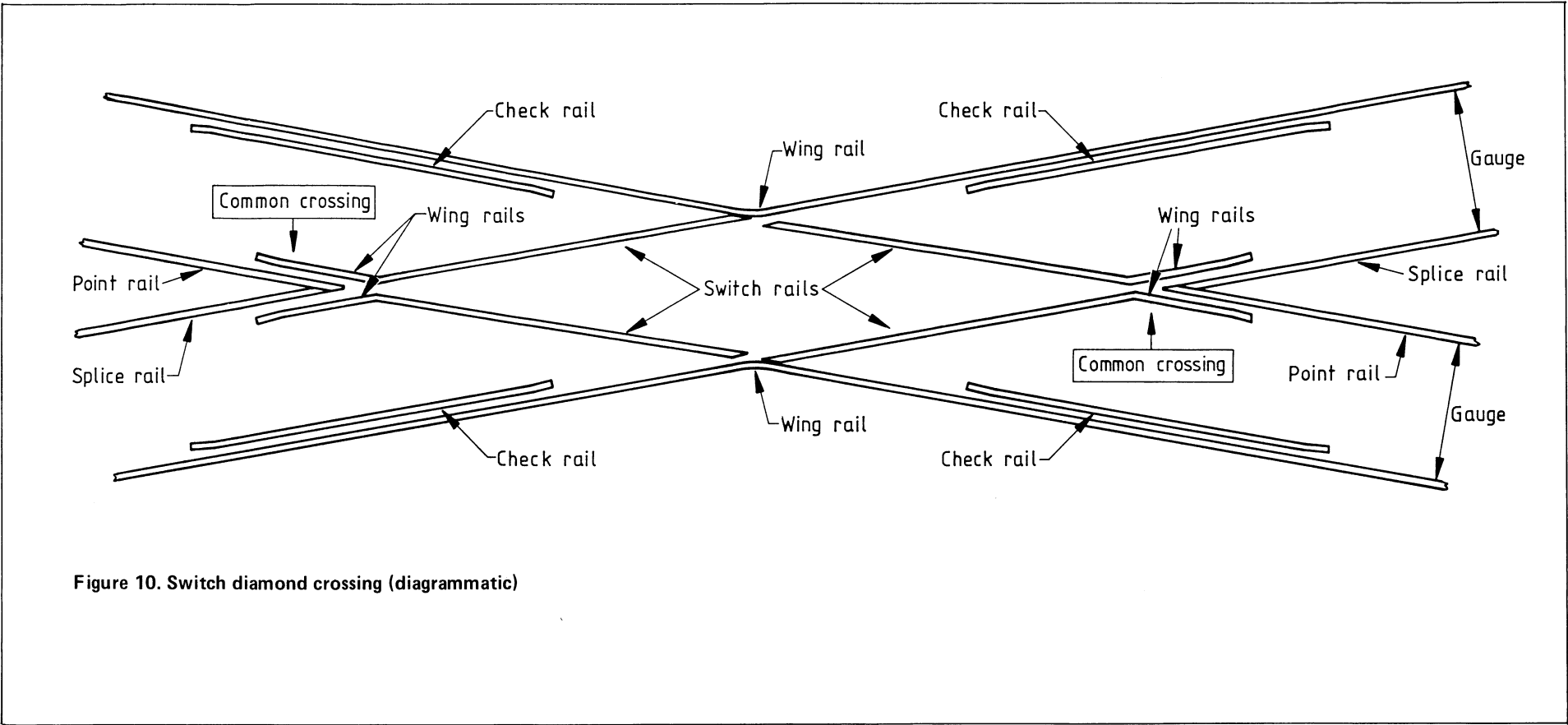


Figure 10. Switch diamond crossing (diagrammatic)

242 1 Railway types

No.	Term	Definition
242 1001	railway	Transport system established for guided passage of vehicles, usually steel wheeled.
242 1002	light railway	<i>Railway</i> operated under the Light Railways Act incorporating restrictions on weight and speed of vehicles.
242 1003	electric railway	<i>Railway</i> on which vehicles are propelled by electric traction.
242 1004	rack railway	<i>Railway</i> with vehicles driven by pinions that engage on a rack.
242 1005	funicular railway	<i>Railway</i> on a steep incline on which vehicles are connected by cable to a drum or to each other to provide counterbalance.
242 1006	monorail	<i>Railway</i> on which vehicles run on a single <i>running rail</i> with beam support.
242 1007	mass transit railway	<i>Railway</i> for the rapid movement of high passenger load densities in urban areas.

242 2 Permanent way

242 21 Base terms

242 2101	track	Assembly of <i>rails</i> , concrete or timber <i>sleepers</i> , fastenings, and <i>ballast</i> or other forms of support, for passage of vehicles.
242 2102	permanent way	<i>Track</i> together with all other ancillary installations.

242 22 Type of track

242 2201	main line fast line <i>deprecated</i>	Principal <i>track</i> on a <i>railway</i> .
242 2202	secondary line	<i>Track</i> of less importance than a <i>main line</i> .
242 2203	relief line slow line <i>deprecated</i>	<i>Secondary line</i> that runs alongside a <i>main line</i> .
242 2204	branch line	<i>Track</i> that acts as a feeder to a <i>main line</i> or a <i>secondary line</i> .
242 2205	goods line	<i>Track</i> for carrying freight vehicles.
242 2206	passing loop	<i>Track</i> for diverting or holding traffic to enable other traffic to pass.
242 2207	through line	<i>Track</i> within environs of a station for non-stopping traffic.
242 2208	electrified track	<i>Track</i> for an <i>electric railway</i> .
242 2209	reversible line	<i>Track</i> for operating in both directions.
242 2210	single line	Single <i>reversible line</i> on a section of <i>railway</i> .
242 2211	siding	<i>Track</i> for marshalling and stabling vehicles.

No.	Term	Definition
242 2212	private siding	<i>Siding</i> or access <i>track</i> for vehicles on private premises.
242 2213	running line	<i>Track</i> other than <i>siding</i> .
242 2214	plain line	Length of <i>track</i> without <i>switches</i> or <i>crossings</i> .
242 2215	switch and crossing layout	Length of <i>track</i> with <i>switches</i> and <i>crossings</i> that form <i>junctions</i> .
242 2216	track category	Classification of <i>running line</i> based on tonnage and traffic speed.
242 2217	track panel track section <i>deprecated</i>	Length of <i>track</i> assembled as a unit.
242 2218	slab track	<i>Track</i> without <i>ballast</i> , continuously supported by reinforced concrete slab.
242 2219	transition beam	Connecting unit between ballasted <i>track</i> and <i>slab track</i> .
242 2220	mixed gauge track dual gauge track <i>deprecated</i>	<i>Track</i> with extra <i>running rail</i> or <i>running rails</i> to provide two or more <i>gauges</i> .
242 2221	interlaced track	<i>Track</i> in which adjacent <i>tracks</i> overlap, usually temporarily, to allow two-way traffic working within a restricted width.
242 2222	anchor length	Length of <i>track</i> required at each end of <i>continuous welded rail</i> during stressing operations to resist forces applied by a <i>rail tensor</i> .
242 2223	breathing length	Length of <i>track</i> , immediately abutting <i>adjustment switch</i> , that is subject to movement caused by temperature changes.

242 23 Track installations

242 2301	switch points <i>deprecated</i>	Assembly of <i>rails</i> and other components for diverting vehicles from one <i>track</i> to another (see figure 1).
242 2302	trailing switch	<i>Switch</i> installed where traffic predominantly travels from <i>switch heel</i> towards <i>switch toe</i> .
242 2303	facing switch	<i>Switch</i> installed where traffic predominantly travels from <i>switch toe</i> towards <i>switch heel</i> .
242 2304	self reversing switch spring points <i>deprecated</i>	<i>Switch</i> that resets itself after a trailing movement of a vehicle from <i>switch heel</i> to <i>switch toe</i> .
242 2305	powered switch	<i>Switch</i> operated other than manually.
242 2306	hand of switch	Direction, left or right, viewed from <i>switch toe</i> , to which traffic will be diverted from the more important <i>line</i> .
242 2307	switch half set	Assembly for one side of a <i>switch</i> that comprises a <i>stock rail</i> and a <i>switch rail</i> .
242 2308	two levelled switch	Layout in which <i>cant</i> is provided beyond the <i>switch heel</i> .

No.	Term	Definition
242 2309	crossing	Assembly to permit the passage of wheel flanges across other <i>rails</i> where <i>tracks</i> intersect (see figure 1).
242 2310	angle of crossing	Tangent, expressed as a ratio, of acute angle of a <i>crossing</i> , usually based on centre line measurements (see figure 1).
242 2311	turnout lead, connection <i>deprecated</i>	<i>Junction</i> that comprises a <i>switch</i> , a <i>crossing</i> and <i>closure rails</i> (see figure 1).
242 2312	right hand turnout	<i>Turnout</i> in which one of the <i>tracks</i> diverges to the right when viewed from <i>switch toe</i> towards <i>crossing</i> (see figure 1).
242 2313	left hand turnout	<i>Turnout</i> in which one of the <i>tracks</i> diverges to the left when viewed from <i>switch toe</i> towards <i>crossing</i> .
242 2314	contra flexure turnout	<i>Turnout</i> in which the curves of diverging <i>tracks</i> are of opposite hand (see figure 2).
242 2315	similar flexure turnout	<i>Turnout</i> in which the curves of diverging <i>tracks</i> are of the same hand (see figure 3).
242 2316	tandem turnout threeway <i>deprecated</i>	Two integral <i>turnouts</i> (see figure 4).
242 2317	junction	Layout at intersection of <i>tracks</i> .
242 2318	single junction	<i>Junction</i> that consists of one <i>turnout</i> and a <i>diamond crossing</i> (see figure 5).
242 2319	double junction	<i>Junction</i> that consists of two <i>turnouts</i> and a <i>diamond crossing</i> (see figure 6).
242 2320	crossover	Two <i>turnouts</i> connected to give directional movement from one <i>track</i> to another (see figure 7).
242 2321	scissors crossover scissors crossing <i>deprecated</i>	Two integral <i>crossovers</i> of opposite hand (see figure 8).
242 2322	diamond crossing	<i>Junction</i> that consists of two <i>common crossings</i> and two <i>obtuse crossings</i> (see figure 9).
242 2323	switch diamond crossing moveable elbows <i>deprecated</i>	<i>Diamond crossing</i> in which the <i>obtuse crossing point rails</i> are <i>switch rails</i> (see figure 10).
242 2324	compound crossing diamond crossing with slip roads <i>deprecated</i>	<i>Diamond crossing</i> , with two or four <i>switches</i> , that extends directional movement of vehicles (see figures 11 and 12).
242 2325	ladder	Series of <i>turnouts</i> , <i>diamond crossings</i> or <i>compound crossings</i> , or any combination thereof.
242 2326	catch point trap point <i>deprecated</i>	Assembly of <i>rails</i> that derails vehicles in the event of their unauthorized movement.
242 2327	trap point	Assembly of <i>rails</i> that halts vehicles, in the event of their unauthorized movement, so as to protect adjacent <i>tracks</i> .

242 3 Track components

242 31 Rails

No.	Term	Definition
242 3101	rail	Special steel section used to guide vehicles on a <i>railway</i> .
242 3102	flat bottom rail	<i>Rail</i> in which <i>foot of rail</i> has a flat base (see figure 13).
242 3103	bull head rail	<i>Rail</i> in which <i>head of rail</i> and <i>foot of rail</i> are similarly shaped (see figure 14).
242 3104	normal quality rail	<i>Rail</i> that complies with BS 11.
242 3105	long welded rail	<i>Rail</i> formed by welding two or more lengths.
242 3106	running rail	<i>Rail</i> that supports the flanged steel wheels of a vehicle.
242 3107	continuous welded rail	<i>Running rail</i> , longer than 55 m, made by welding shorter lengths.
242 3108	low rail inner rail <i>deprecated</i>	Inner <i>running rail</i> of a curved portion of <i>track</i> .
242 3109	high rail	Outer <i>running rail</i> of a curved portion of <i>track</i> .
242 3110	gauge rails	Two <i>running rails</i> of <i>track</i> at specified <i>gauge</i> .
242 3111	closure rail	Short length of <i>running rail</i> used to complete <i>track</i> assembly.
242 3112	check rail	<i>Rail</i> provided alongside <i>running rail</i> to restrict lateral wheel movement.
242 3113	guard rail	<i>Rail</i> provided alongside <i>running rail</i> at specific locations, such as viaducts and <i>level crossings</i> , for added security.
242 3114	conductor rail	Additional <i>rail</i> for conveying electrical traction current at <i>track</i> level.
242 3115	third rail	Single <i>conductor rail</i> .
242 3116	fourth rail	Second <i>conductor rail</i> .
242 3117	contact ramp conductor rail end ramp <i>deprecated</i>	Device at end of <i>conductor rail</i> to ensure smooth contact of traction shoes.
242 3118	rail profile	Cross-sectional shape of <i>rail</i> .
242 3119	head of rail	Upper portion of <i>rail</i> .
242 3120	foot of rail	Lower portion of <i>rail</i> .
242 3121	web of rail	Mid-section of <i>rail</i> between <i>head of rail</i> and <i>foot of rail</i> .
242 3122	crown of rail	Upper surface of <i>head of rail</i> .
242 3123	rail end	End of <i>rail</i> prepared for joining to adjacent <i>rail</i> .
242 3124	running off end	<i>Rail end</i> at which traffic in the predominant direction leaves that <i>rail</i> .

No.	Term	Definition
242 3125	running on end	<i>Rail end</i> at which traffic in the predominant direction runs on to that <i>rail</i> .
242 3126	running surface area of contact <i>deprecated</i>	Part of <i>head of rail</i> in contact with tyre.
242 3127	running face running edge, gauge face <i>deprecated</i>	Inside face of <i>head of rail</i> contacted by wheel flange.
242 3128	back face back of head <i>deprecated</i>	Outside face of <i>head of rail</i> .
242 3129	fishing angle	Inclination to horizontal of the lower surface of <i>head of rail</i> and of upper surface of the <i>foot of rail</i> . NOTE. The <i>fishplate</i> has corresponding angles on upper and lower surfaces.
242 3130	fishing surface	Contact surface between <i>fishplate</i> and <i>rail</i> .
242 3131	rail brand mark	Details of <i>rail</i> manufacture embossed on <i>web of rail</i> .

242 32 Joints, fastenings and restraints

242 3201	rail joint	Construction formed by fixing together two <i>rails</i> .
242 3202	fishplate	Plate used to connect <i>rail ends</i> .
242 3203	skirted fishplate	<i>Fishplate</i> of increased depth that provides additional strength at ends of <i>bull head rails</i> .
242 3204	fishbolt	Bolt for fixing a <i>fishplate</i> , sometimes with a pear shaped shank under the head.
242 3205	fishplate hole	Round or pear shaped hole in a <i>fishplate</i> .
242 3206	fishbolt hole	Hole in <i>web of rail</i> in <i>rail end</i> for a <i>fishbolt</i> .
242 3207	bond hole	Hole in <i>rail</i> for attaching electrical bonding wires or cables.
242 3208	insulated joint	<i>Rail joint</i> in which one <i>rail</i> is electrically insulated from another.
242 3209	insulated fishplate non-ferrous fishplate <i>deprecated</i>	Electrically insulated plate used to connect <i>rail ends</i> at an <i>insulated joint</i> .
242 3210	glued insulated joint	<i>Insulated joint</i> in which the components are resin bonded.
242 3211	end post	Thin section of insulating material that separates ends of <i>rails</i> at an <i>insulated joint</i> .
242 3212	junction joint	<i>Rail joint</i> of different <i>rail profiles</i> .
242 3213	junction fishplate fitted fishplate <i>deprecated</i>	<i>Fishplate</i> used at a <i>junction joint</i> .