EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 152

DATE: JANUARY 1, 2016

PROJECT RP0030

The following classification changes will be effected by this Notice of Changes:

Action	Subclass	Group(s)
Symbols deleted:	E21D	9/007
	E21D	2009/008
	E21D	2009/0614
	E21D	9/0628
	E21D	2009/0642
	E21D	2009/065
	E21D	2009/0657
	E21D	2009/0664
	E21D	2009/0671
	E21D	2009/0678
	E21D	2009/0685
	E21D	9/081
	E21D	9/082
	E21D	2009/084
	E21D	9/085
	E21D	9/087 (symbol deleted and inserted)
	E21D	2009/088
	E21D	2011/086
	E21D	2011/386
	E21D	2011/388
	E21D	2011/406
	E21D	15/582
	E21D	15/583
	E21D	2021/0053
	E21D	2021/006
	E21D	2021/0066
	E21D	2021/0073
	E21D	2023/142
	E21D	2023/144
	E21D	2023/146
	E21D	2023/148
Symbols newly created:	E21D	9/008
	E21D	9/01
	E21D	9/03
	E21D	9/0609
	E21D	9/0642
	E21D	9/065
	E21D	9/0657
	E21D	9/0664
	E21D	9/0671
	E21D	9/0678
	E21D	9/0685

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Action	Subclass	Group(s)
	E21D	9/087 (symbol deleted and inserted)
	E21D	9/0873
	E21D	9/0874
	E21D	9/0875
	E21D	9/0879
	E21D	9/093
	E21D	11/086
	E21D	11/386
	E21D	11/388
	E21D	11/406
	E21D	15/5813
	E21D	15/5817
	E21D	21/0053
	E21D	21/006
	E21D	21/0066
	E21D	21/0073
	E21D	23/142
	E21D	23/144
	E21D	23/146
	E21D	23/148
Title wording change:	E21D	9/0607
Scheme Warning Notices to be modified:	E21D	subclass
Scheme Notes to be added:	E21D	9/0678

This Notice of Changes includes the following *[Check the ones included]:*

1.   CLASSIFICATION SCHEME CHANGES
⊠   A. New, Modified or Deleted Group(s)

⊠   B. New, Modified or Deleted Warning Notice(s)

⊠   C. New, Modified or Deleted Note(s)

☐   D. New, Modified or Deleted Guidance Heading(s)

2.   DEFINITIONS (New or Modified)
☐   A. DEFINITIONS (Full definition template)

☐   B. DEFINITIONS (Definitions Quick Fix)

3.   ⊠   REVISION CONCORDANCE LIST (RCL)

4.   ⊠   CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5.   ☐   CROSS-REFERENCE LIST (CRL)

1. CLASSIFICATION SCHEME CHANGES

    A. New, Modified or Deleted Group(s)

SUBCLASS E21D – SHAFTS; TUNNELS; GALLERIES; LARGE UNDERGROUND CHAMBERS

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title (new or modified) "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
U	E21D9/006	1	{by making use of blasting methods (explosive compositions C06B; blasting per se F42)}	
D	E21D9/007	1	{Methods or devices for restoring the cross-section of tunnels, e.g. by equalising the floor}	\<Administrative transfer to E21D9/01\>
D	E21D2009/008	1	{Driving transverse tunnels starting from existing tunnels}	\<Administrative transfer to E21D9/008\> INV INF
N	E21D9/008	1	{Driving transverse tunnels starting from existing tunnels}	
N	E21D9/01	1	Methods or apparatus for enlarging or restoring the cross-section of tunnels, e.g. by restoring the floor to its original level	
U	E21D9/02	1	Driving inclined tunnels or galleries	
N	E21D9/03	1	{Driving non-circular tunnels}	
U	E21D9/04	1	Driving tunnels or galleries through loose materials; Apparatus therefor not otherwise provided for {(E21D9/005, E21D9/06 take precedence; soil improvement E21D9/001; provisional protective covers E21D19/04)}	
U	E21D9/06	1	Making by using a driving shield, {i.e. advanced by pushing means bearing against the already placed lining (pushing prefabricated elements through the ground from an access pit E21D9/005)}	
M	E21D9/0607	2	{the shield being provided with devices for lining the tunnel, e.g. shuttering (E21D9/0873, E21D9/0879 take precedence; tail sealing means used as end shuttering E21D9/0635)}	

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Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title (new or modified) "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
N	E21D9/0609	3	{with means for applying a continuous liner, e.g. sheets of plastics, between the main concrete lining and the rock}	
D	E21D2009/0614	3	{with means for applying a continuous liner, e.g. sheets of plastics, between the main concrete lining and the rock}	<Administrative transfer to E21D9/0609> INV INF
U	E21D9/0621	2	{Shield advancing devices}	
D	E21D9/0628	2	{Control of the shields, e.g. of the hydraulic advancing cylinders (arrangement of measuring or indicating devices for use during driving of tunnels E21D9/003)}	<Administrative transfer to E21D9/093>
U	E21D9/0635	2	{Tail sealing means, e.g. used as end shuttering}	
D	E21D2009/0642	2	{the shield having means for additional processing at the front end}	<Administrative transfer to E21D9/0642> INV INF
N	E21D9/0642	2	{the shield having means for additional processing at the front end}	
D	E21D2009/065	3	{with devices for provisionally supporting the front face}	<Administrative transfer to E21D9/065> INV INF
N	E21D9/065	3	{with devices for provisionally supporting the front face}	
D	E21D2009/0657	3	{structurally associated with rock crushers}	<Administrative transfer to E21D9/0657> INV INF
N	E21D9/0657	3	{structurally associated with rock crushers}	
D	E21D2009/0664	3	{with means for applying a coating layer to the front face, e.g. by spraying}	<Administrative transfer to E21D9/0664> INV INF
N	E21D9/0664	3	{with means for applying a coating layer to the front face, e.g. by spraying}	
D	E21D2009/0671	3	{with means for consolidating the rock in front of the shield by injection of consolidating substances through boreholes}	<Administrative transfer to E21D9/0671> INV INF
N	E21D9/0671	3	{with means for consolidating the rock in front of the shield by injection of consolidating substances through boreholes}	

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title (new or modified) "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
D	E21D2009/0678	3	{Adding additives, e.g. chemical compositions, to the slurry or the cuttings (bentonite shall not be coded)}	<Administrative transfer to E21D9/0678> INV INF
N	E21D9/0678	3	{Adding additives, e.g. chemical compositions, to the slurry or the cuttings}	
D	E21D2009/0685	4	{Foaming agents}	<Administrative transfer to E21D9/0685> INV INF
N	E21D9/0685	4	{Foaming agents}	
U	E21D9/08	2	with additional boring or cutting means {other than the conventional cutting edge of the shield}	
D	E21D9/081	3	{with a rotary drilling head cutting simultaneously the whole front face}	**Attention**: <First, administrative transfer of current group E21D9/087 to E21D9/0879 needed before administrative transfer from E21D9/081 to new E21D9/087 takes place>
D	E21D9/082	4	{the shield being provided with devices for lining the tunnel, e.g. shuttering}	<Administrative transfer to E21D9/0873>
D	E21D2009/084	4	{with rotary drilling heads having variable diameter}	<Administrative transfer to E21D9/0874> INV INF
D	E21D9/085	3	{with a movable support arm carrying cutting tools for attacking the front face, e.g. a bucket}	<Administrative transfer to E21D9/0875>
D	E21D9/087	4	{the shield being provided with devices for lining the tunnel, e.g. shuttering}	<Administrative transfer to E21D9/0879>
N	E21D9/087	3	with a rotary drilling-head cutting simultaneously the whole cross-section, i.e. full-face machines	
N	E21D9/0873	4	{the shield being provided with devices for lining the tunnel, e.g. shuttering}	
N	E21D9/0874	3	{with rotary drilling heads having variable diameter}	
N	E21D9/0875	3	{with a movable support arm carrying cutting tools for attacking the front face, e.g. a bucket}	
N	E21D9/0879	4	{the shield being provided with devices for lining the tunnel, e.g. shuttering}	

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Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title (new or modified) "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
D	E21D2009/088	3	{for driving non-circular tunnels}	\<Administrative transfer to E21D9/03> INV INF
N	E21D9/093	2	Control of the driving shield {, e.g. of the hydraulic advancing cylinders (arrangement of measuring or indicating devices for use during driving of tunnels E21D9/003)}	
U	E21D11/083	3	{Methods or devices for joining adjacent concrete segments}	
D	E21D2011/086	3	{Making of concrete lining segments}	\<Administrative transfer to E21D11/086> INV INF
N	E21D11/086	3	{Methods of making concrete lining segments}	
U	E21D11/385	2	{Sealing means positioned between adjacent lining members (for joints in foundation structures E02D29/16; for sewers E03F3/04; for building structures in general E04B1/68)}	
D	E21D2011/386	3	{inflatable}	\<Administrative transfer to E21D11/386> INV INF
N	E21D11/386	3	{inflatable sealing means}	
D	E21D2011/388	3	{having longitudinal cavities communicating with the exterior on the outer side of the lining elements}	\<Administrative transfer to E21D11/388> INV INF
N	E21D11/388	3	{having longitudinal cavities communicating with the exterior on the outer side of the lining elements}	
U	E21D11/40	1	Devices or apparatus specially adapted for handling or placing units of linings {or supporting units} for tunnels or galleries {(combined with tunnelling shields E21D9/06)}	
U	E21D11/403	2	{combined with the head machine}	
D	E21D2011/406	2	{Placing endless lining elements, e.g. from reels (in combination with a tunnelling shield E21D2009/0614)}	\<Administrative transfer to E21D11/406> INV INF
N	E21D11/406	2	{Placing endless lining elements, e.g. from reels (in combination with a tunneling shield E21D9/0609)}	

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title (new or modified) "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
U	E21D15/581	2	{in which the props are pre- loaded (extensible elements at strut extremities E21D 15/52)}	
N	E21D15/5813	3	{by means of power accumulators to be pre-charged by rock pressure (by means of hydraulically operated devices E21D15/587)}	
N	E21D15/5817	3	{in which the lock is also activated}	
D	E21D15/582	3	{by means of power accumulators to be pre-charged by rock pressure (by means of hydraulically operated devices E21D15/587)}	<Administrative transfer to E21D15/5813>
D	E21D15/583	3	{in which the lock is also activated}	<Administrative transfer to E21D15/5817>
U	E21D21/0046	2	{formed by a plurality of elements arranged longitudinally}	
D	E21D2021/0053	2	{Anchoring-bolts in the form of lost drilling rods}	<Administrative transfer to E21D21/0053> INV INF
N	E21D21/0053	2	{Anchoring-bolts in the form of lost drilling rods}	
D	E21D2021/006	2	{Anchoring-bolts made of cables or wires}	<Administrative transfer to E21D21/006> INV INF
N	E21D21/006	2	{Anchoring-bolts made of cables or wires}	
D	E21D2021/0066	2	{Anchoring-bolts formed by a bundle of radially arranged rigid elements}	<Administrative transfer to E21D21/0066> INV INF
N	E21D21/0066	2	{Anchoring-bolts formed by a bundle of radially arranged rigid elements}	
D	E21D2021/0073	2	{Anchoring-bolts having an inflatable sleeve, e.g. hollow sleeve expanded by a fluid}	<Administrative transfer to E21D21/0073> INV INF
N	E21D21/0073	2	{Anchoring-bolts having an inflatable sleeve, e.g. hollow sleeve expanded by a fluid}	
U	E21D23/14	2	Effecting automatic sequential movement of supports, e.g. one behind the other {(advancing of mining machines toward the working face E21C 29/02; advancing of conveyers toward the working face E21D 23/085)}	

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title (new or modified) "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
D	E21D2023/142	3	{Measuring the advance of support units with respect to external points of reference}	<Administrative transfer to E21D23/142> INV INF
N	E21D23/142	3	{Measuring the advance of support units with respect to external points of reference}	
D	E21D2023/144	3	{Measuring the advance of support units with respect to internal points of reference, e.g. with respect to neighbouring support units or extension of a cylinder}	<Administrative transfer to E21D23/144> INV INF
N	E21D23/144	3	{Measuring the advance of support units with respect to internal points of reference, e.g. with respect to neighboring support units or extension of a cylinder}	
D	E21D2023/146	3	{Transmission of signals and commands by cable}	<Administrative transfer to E21D23/146> INV INF
N	E21D23/146	3	{Transmission of signals and commands by cable}	
D	E21D2023/148	3	{Wireless transmission of signals and commands}	<Administrative transfer to E21D23/148> INV INF
N	E21D23/148	3	{Wireless transmission of signals or commands}	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; E= existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:
- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- For U groups, the minimum requirement is to include the U group located immediately prior to the N group or N group array, in order to show the N group hierarchy and improve the readability and understanding of the scheme. Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types except "D" which requires only a symbol.
- #"Transferred to" column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the "Transferred to" column, avoid using ranges of symbols in order to be as precise as possible.

- For administrative transfer of documents, the following text should be used: "< administrative transfer to XX>" or "<administrative transfer to XX and YY simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be "invention information", unless otherwise indicated, and to 2000 series groups is assumed to be "additional information".

B. New, Modified or Deleted Warning notice(s)

SUBCLASS E21D - SHAFTS; TUNNELS; GALLERIES; LARGE UNDERGROUND CHAMBERS

Type*	Location	Old Warning notice	New Warning notice
M	E21D	- E21D 9/01 covered by E21D 9/00 - E21D 9/087 covered by E21D 9/00 - E21D 9/093 covered by E21D 9/00	Delete the 3 lines of text from the existing warning.

*N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

C. New, Modified or Deleted Note(s)

SUBCLASS E21D - SHAFTS; TUNNELS; GALLERIES; LARGE UNDERGROUND CHAMBERS

Type*	Location	Old Note	New Note
N	E21D9/0678	-	When classifying in this group, bentonite shall not be classified

3.   REVISION CONCORDANCE LIST (RCL)

Type*	From CPC Symbol (existing)	To CPC Symbol(s)
D	E21D9/007	<Administrative transfer to E21D 9/01>
D	E21D2009/008	<Administrative transfer to E21D 9/008> INV INF
D	E21D2009/0614	<Administrative transfer to E21D 9/0609> INV INF
D	E21D9/0628	<Administrative transfer to E21D 9/093>
D	E21D2009/0642	<Administrative transfer to E21D 9/0642> INV INF
D	E21D2009/065	<Administrative transfer to E21D 9/065> INV INF
D	E21D2009/0657	<Administrative transfer to E21D 9/0657> INV INF
D	E21D2009/0664	<Administrative transfer to E21D 9/0664> INV INF
D	E21D2009/0671	<Administrative transfer to E21D 9/0671> INV INF
D	E21D2009/0678	<Administrative transfer to E21D 9/0678> INV INF
D	E21D2009/0685	<Administrative transfer to E21D 9/0685> INV INF
D	E21D9/081	**Attention**: <First, administrative transfer of current group E21D9/087 to E21D9/0879 needed before administrative transfer from E21D9/081 to new E21D9/087 takes place> <Administrative transfer to _new_ E21D 9/087>
D	E21D9/082	<Administrative transfer to E21D 9/0873>
D	E21D2009/084	<Administrative transfer to E21D 9/0874> INV INF
D	E21D9/085	<Administrative transfer to E21D 9/0875>
D	E21D9/087	<Administrative transfer to E21D 9/0879>
D	E21D2009/088	<Administrative transfer to E21D 9/03> INV INF
D	E21D2011/086	<Administrative transfer to E21D 11/086> INV INF
D	E21D2011/386	<Administrative transfer to E21D 11/386> INV INF
D	E21D2011/388	<Administrative transfer to E21D 11/388> INV INF
D	E21D2011/406	<Administrative transfer to E21D 11/406> INV INF
D	E21D15/582	<Administrative transfer to E21D 15/5813>
D	E21D15/583	<Administrative transfer to E21D 15/5817>
D	E21D2021/0053	<Administrative transfer to E21D 21/0053> INV INF
D	E21D2021/006	<Administrative transfer to E21D 21/006> INV INF
D	E21D2021/0066	<Administrative transfer to E21D 21/0066> INV INF
D	E21D2021/0073	<Administrative transfer to E21D 21/0073> INV INF
D	E21D2023/142	<Administrative transfer to E21D 23/142> INV INF
D	E21D2023/144	<Administrative transfer to E21D 23/144> INV INF
D	E21D2023/146	<Administrative transfer to E21D 23/146> INV INF
D	E21D2023/148	<Administrative transfer to E21D 23/148> INV INF

* C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; D = deleted entries.

NOTES:
- <u>Only</u> C, D, and Q type entries are included in the table above.
- When multiple symbols are included in the "To" column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: "< administrative transfer to XX>" or "<administrative transfer to XX and YY simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be "invention information", unless otherwise indicated, and to 2000 series groups is assumed to be "additional information".

4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

CPC	IPC	Action*
E21D9/007		DELETE
E21D2009/008		DELETE
E21D9/008	E21D9/00	NEW
E21D9/01	E21D9/01	NEW
E21D9/03	E21D9/00	NEW
E21D9/0609	E21D9/06	NEW
E21D2009/0614		DELETE
E21D9/0628		DELETE
E21D2009/0642		DELETE
E21D9/0642	E21D9/06	NEW
E21D2009/065		DELETE
E21D9/065	E21D9/06	NEW
E21D2009/0657		DELETE
E21D9/0657	E21D9/06	NEW
E21D2009/0664		DELETE
E21D9/0664	E21D9/06	NEW
E21D2009/0671		DELETE
E21D9/0671	E21D9/06	NEW
E21D2009/0678		DELETE
E21D9/0678	E21D9/06	NEW
E21D2009/0685		DELETE
E21D9/0685	E21D9/06	NEW
E21D9/081		DELETE
E21D9/082		DELETE
E21D2009/084		DELETE
E21D9/085		DELETE
E21D9/087	E21D9/087	UPDATE
E21D9/0873	E21D9/087	NEW
E21D9/0874	E21D9/08	NEW
E21D9/0875	E21D9/08	NEW
E21D9/0879	E21D9/08	NEW
E21D2009/088		DELETE
E21D9/093	E21D9/093	NEW
E21D11/086	E21D11/08	NEW
E21D2011/086		DELETE
E21D2011/386		DELETE
E21D11/386	E21D11/38	NEW

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CPC	IPC	Action*
E21D2011/388		DELETE
E21D11/388	E21D11/38	NEW
E21D2011/406		DELETE
E21D11/406	E21D11/40	NEW
E21D15/5813	E21D15/58	NEW
E21D15/5817	E21D15/58	NEW
E21D15/582		DELETE
E21D15/583		DELETE
E21D2021/0053		DELETE
E21D21/0053	E21D21/00	NEW
E21D2021/006		DELETE
E21D21/006	E21D21/00	NEW
E21D2021/0066		DELETE
E21D21/0066	E21D21/00	NEW
E21D2021/0073		DELETE
E21D21/0073	E21D21/00	NEW
E21D2023/142		DELETE
E21D23/142	E21D23/14	NEW
E21D2023/144		DELETE
E21D23/144	E21D23/14	NEW
E21D2023/146		DELETE
E21D23/146	E21D23/14	NEW
E21D2023/148		DELETE
E21D23/148	E21D23/14	NEW

*Action column:
- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with "NEW."
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with "UPDATED."
- For a (D) CPC entry or indexing entry complete the Action column with "DELETE." IPC symbol does not need to be included in the IPC column.
- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with "NEW".
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with "CPCONLY" and complete the action column with "NEW".

NOTES:
- F symbols are not included in the CICL table above.
- E and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.

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