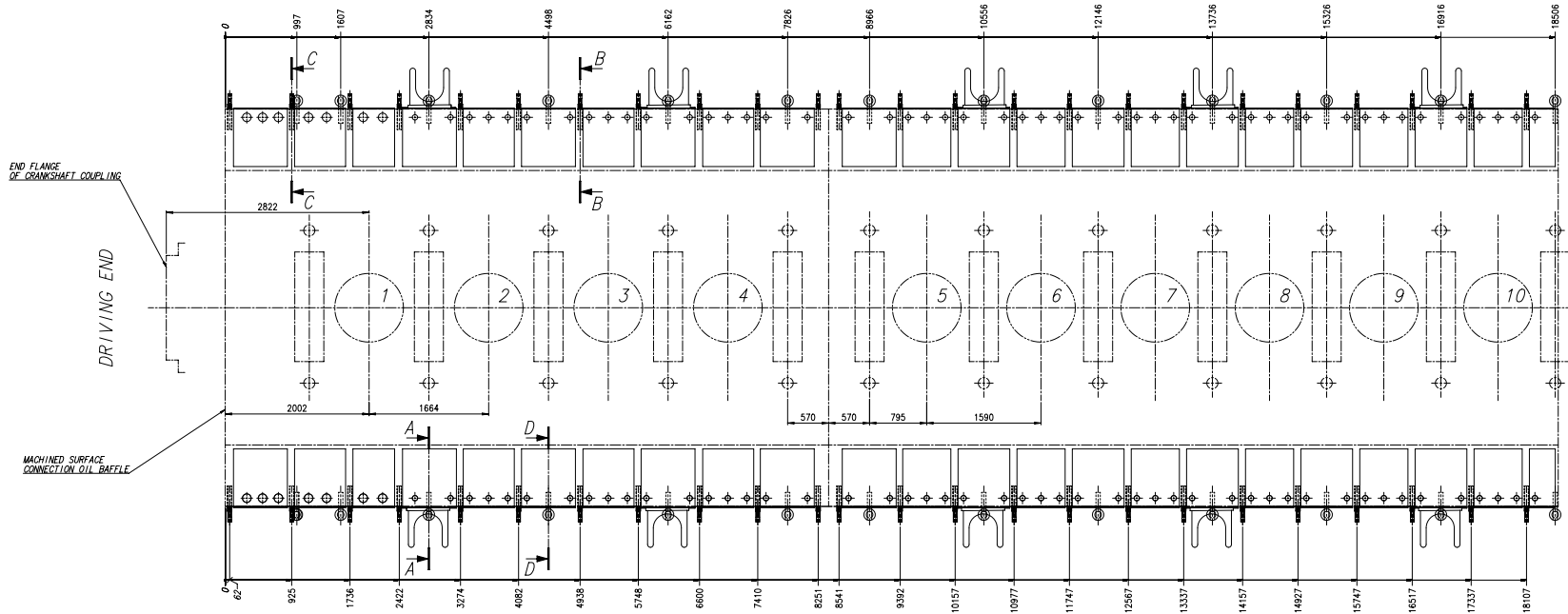




(A) CAUTION

Risk:
Tool and/or bedplate damage

Countermeasure:
Avoid overloading of bedplate areas by observing the appropriate engine alignment/assembly procedure as follows:

- Insert wedges and/or shims in all indicated positions.
- Lift the engine into the engine room and place it on levelled wedges and/or shims (wedges or shims must be inserted as deep as possible below the bedplate to ensure that the support point is as close as possible at the engine monoblock column).
- Apply hydraulic jacks to the protruding bedplate ribs nearby the relevant wedge and/or shim as indicated in the drawing.
- Start with the engine alignment by means of wedges and/or shims. Before adjusting the height of wedges and/or shims lift the engine by the hydraulic jacks. Any height adjustment must be performed in small steps - no more than 1 mm per step. Changes in height larger than the maximum allowance (1mm) require a gradual process where all wedges and/or shims are successively adjusted in stages, to ensure the best possible load distribution.

(A) Remarks

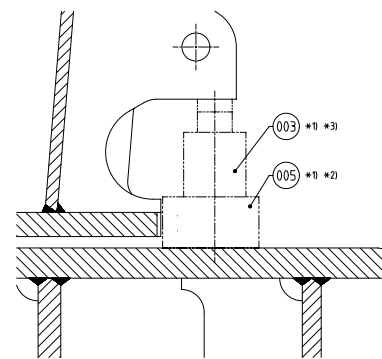
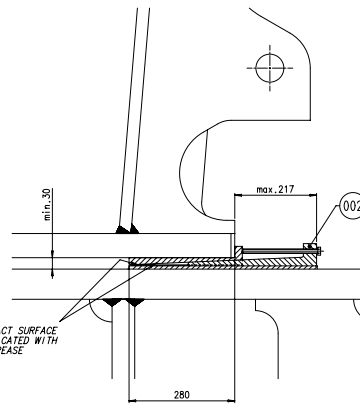
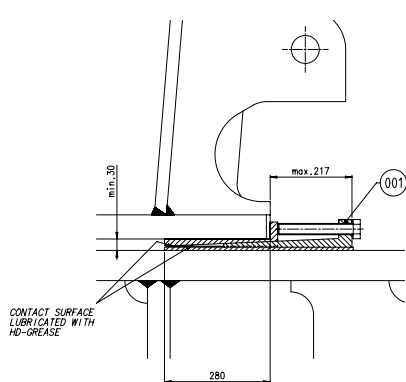
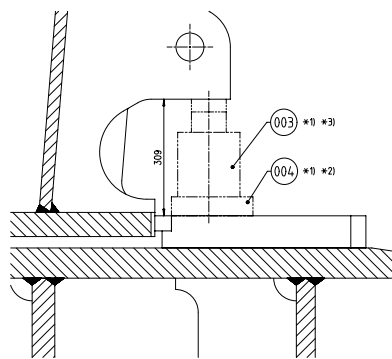
- *1) To be provided by the shipyard
- *2) Height depending on the requirement (check thickness in correlation with maximum permissible extension of the hydraulic jack)
- *3) Hydraulic jack proposal
Type: Enerpac RHM-1003
Load at 700 bar: 931 kN

A-A 1:5

B-B 1:5

C-C 1:5

D-D 1:5



Part No.	Part Name	Material	Quantity	Unit	Weight
16 005	RAAD3B8480 SUPPORT BLOCK				
10 004	RAAD3B8479 SUPPORT PLATE				
26 003	HYDRAULIC JACK				
2 002	WEDGE	NARROW TYPE	107424.346		3,36
46 001	WEDGE	STANDARD TYPE	107245.895		7,51

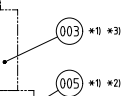
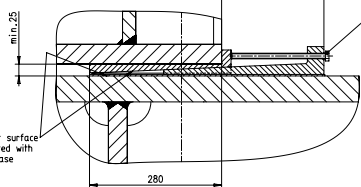
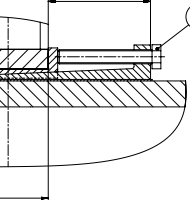


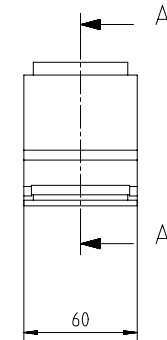
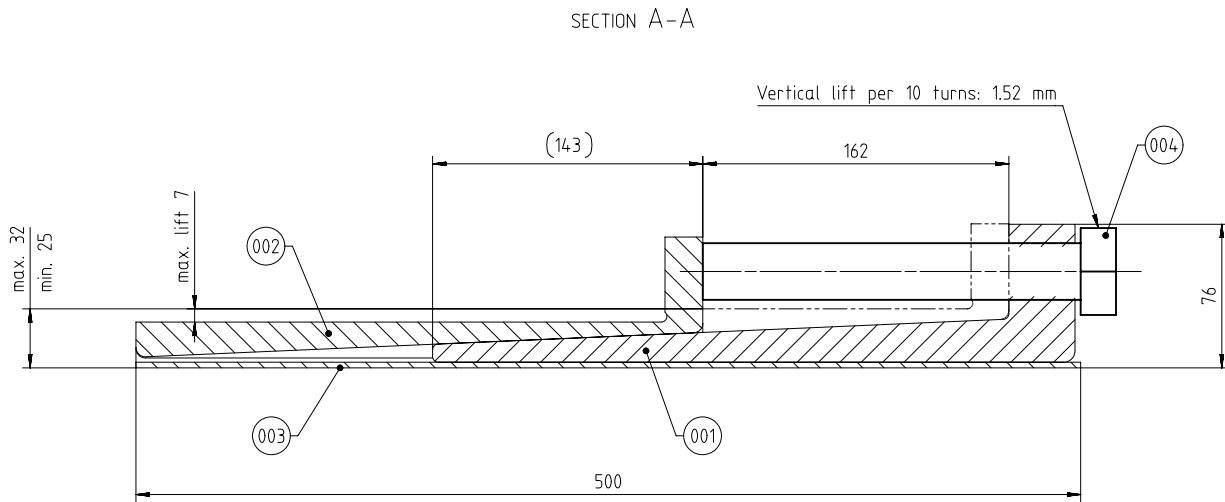
Risk:
Tool and/or bedplate damage

Countermeasure:
Avoid overloading of bedplate areas by observing
the appropriate engine alignment/assembly procedure as follows:

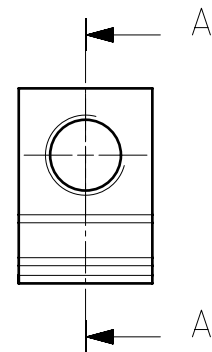
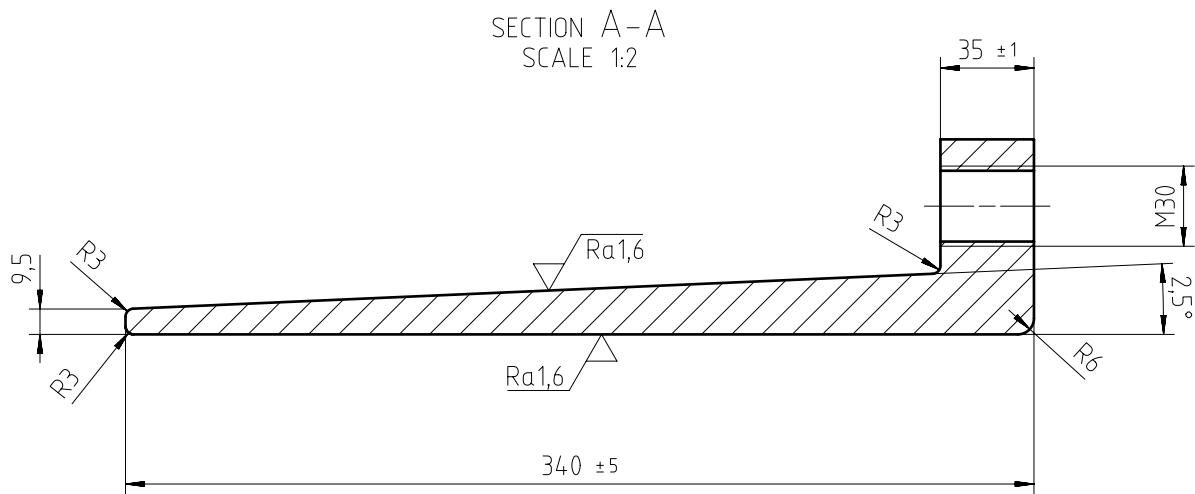
- Insert wedges and/or shims in all indicated positions.
- Lift the engine into the engine room and place it on leveled wedges and/or shims (wedges or shims must be inserted as deep as possible below the pedestal to ensure that the support point is as close as possible to the engine monoblock column)
- Apply hydraulic jacks to the protruding bedplate ribs nearby the relevant wedge and/or shim as indicated in the drawing.
- Start with the engine alignment by means of wedges and/or shims. Before adjusting the height of wedges and/or shims lift the engine by the hydraulic jacks. Any height adjustment must be performed in small steps - no more than 1 mm per step. Changes in height larger than the maximum allowance (1mm) require a special process where all wedges and/or shims are successively adjusted in stages, to ensure the best possible load distribution.

- *1) To be provided by the shipyard
- *2) Height depending on the requirement
(check thickness in correlation with maximum permissible extension of the hydraulic jack)
- *3) Hydraulic jack proposal
Type: Enerpac RCH-1003
Load at 700 bar: 931 kN

[illegible]

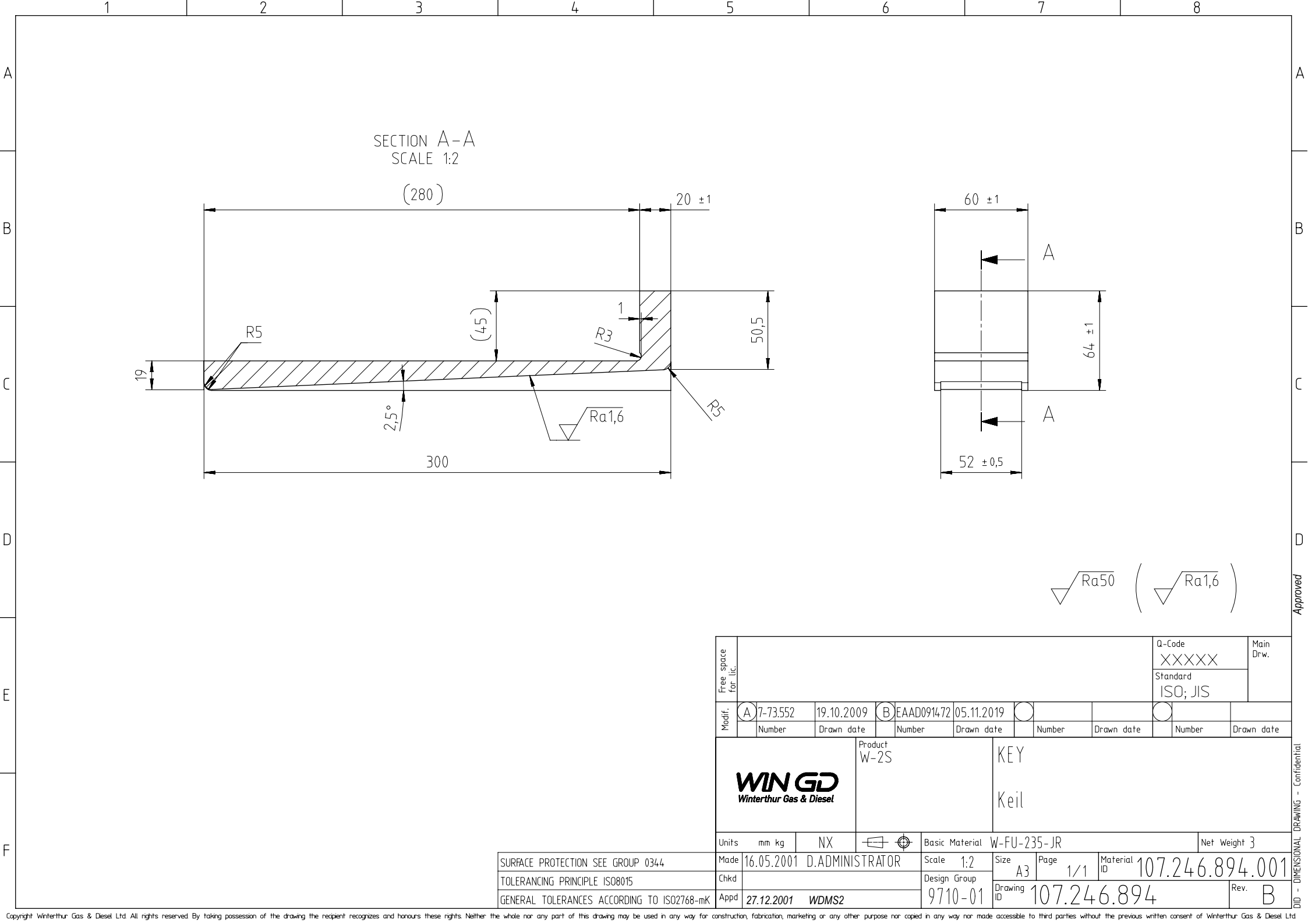


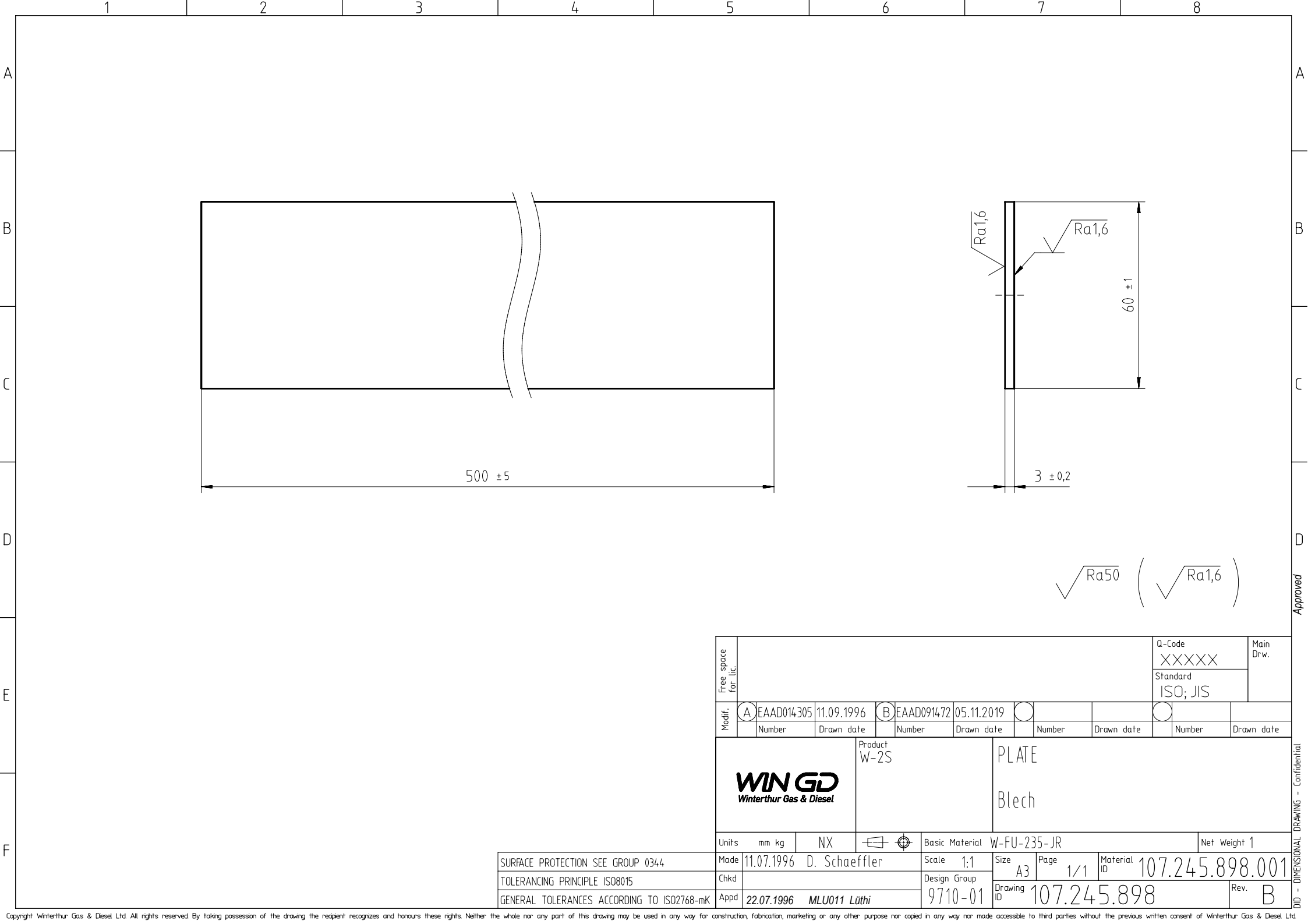
1	004	015.151.048.701	HEXAGON HEAD SCREW M30x200		ISO 4017	8.8	1,21								
1	003	107.245.898.001	PLATE		107.245.898	W-FU-235-JR	1,0								
1	002	107.246.894.001	KEY		107.246.894	W-FU-235-JR	3,0								
1	001	107.246.895.001	KEY		107.246.895	W-FU-235-JR	3,3								
QTY	SEQ NO	Material ID	Material Name		Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET							
Free space for lic.							Q-Code XXXXXX	Main Drw.							
							Standard ISO; JIS								
Modif.	B	EAAD014493	05.02.2002	C	7-73.552	19.10.2009	D	EAAD084635	27.06.2013	E	EAAD091472	11.11.2019			
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date			
 Winterthur Gas & Diesel			Product W-25		WEDGE		Schraeger Keil								
Units	mm kg	NX				Basic Material					Net Weight 8,51				
Made	10.07.1996		D.Scheffler			Scale	1:2		Size	A2	Page	1/1	Material ID	107.245.895.200	
Chkd						Design Group			Drawing ID						
Appd	30.08.1996		WCH001 Service User			9710-01		107.245.895				Rev.		E	



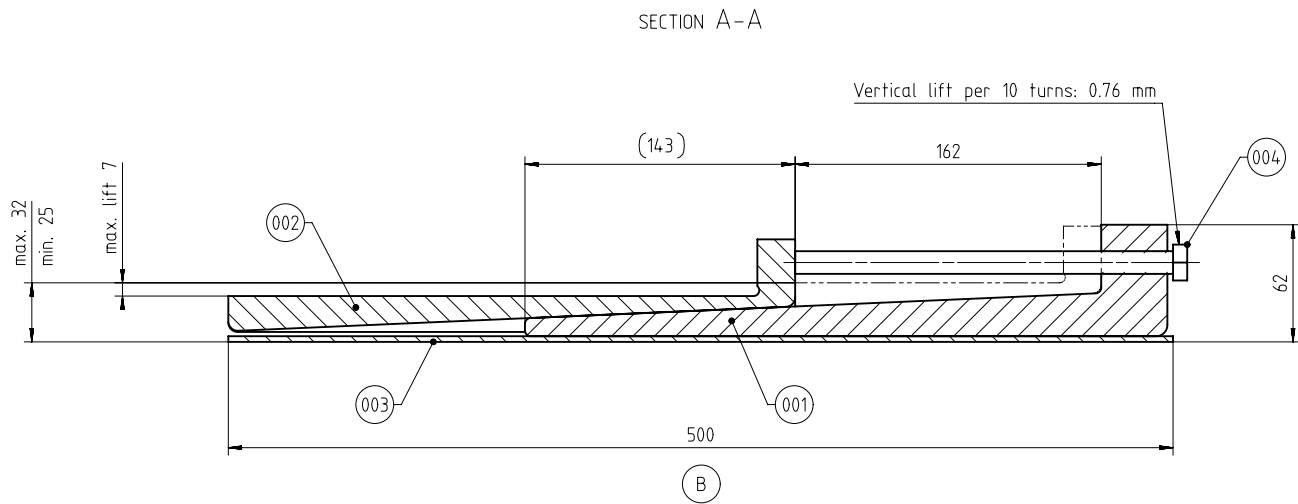
$\sqrt{Ra50}$ ($\sqrt{Ra1,6}$)

Free space for lic.								Q-Code XXXXX	Main Drw.		
								Standard ISO; JIS			
Modif.	A	7-73.552	19.10.2009	B	EAAD091472	04.11.2019					
		Number	Drawn date		Number	Drawn date		Number	Drawn date		
WIN GD Winterthur Gas & Diesel			Product W-2S			KEY Keil					
Units	mm kg	NX			Basic Material	W-FU-235-JR			Net Weight 3,3		
SURFACE PROTECTION SEE GROUP 0344			Made	16.05.2001 D.ADMINISTRATOR		Scale	1:2	Size	A3		
TOLERANCING PRINCIPLE ISO8015			Chkd			Design Group	9710-01		Page	1/1	
GENERAL TOLERANCES ACCORDING TO ISO2768-mK			Appd	27.12.2001 WDMS2		Drawing ID	107.246.895			Rev.	B

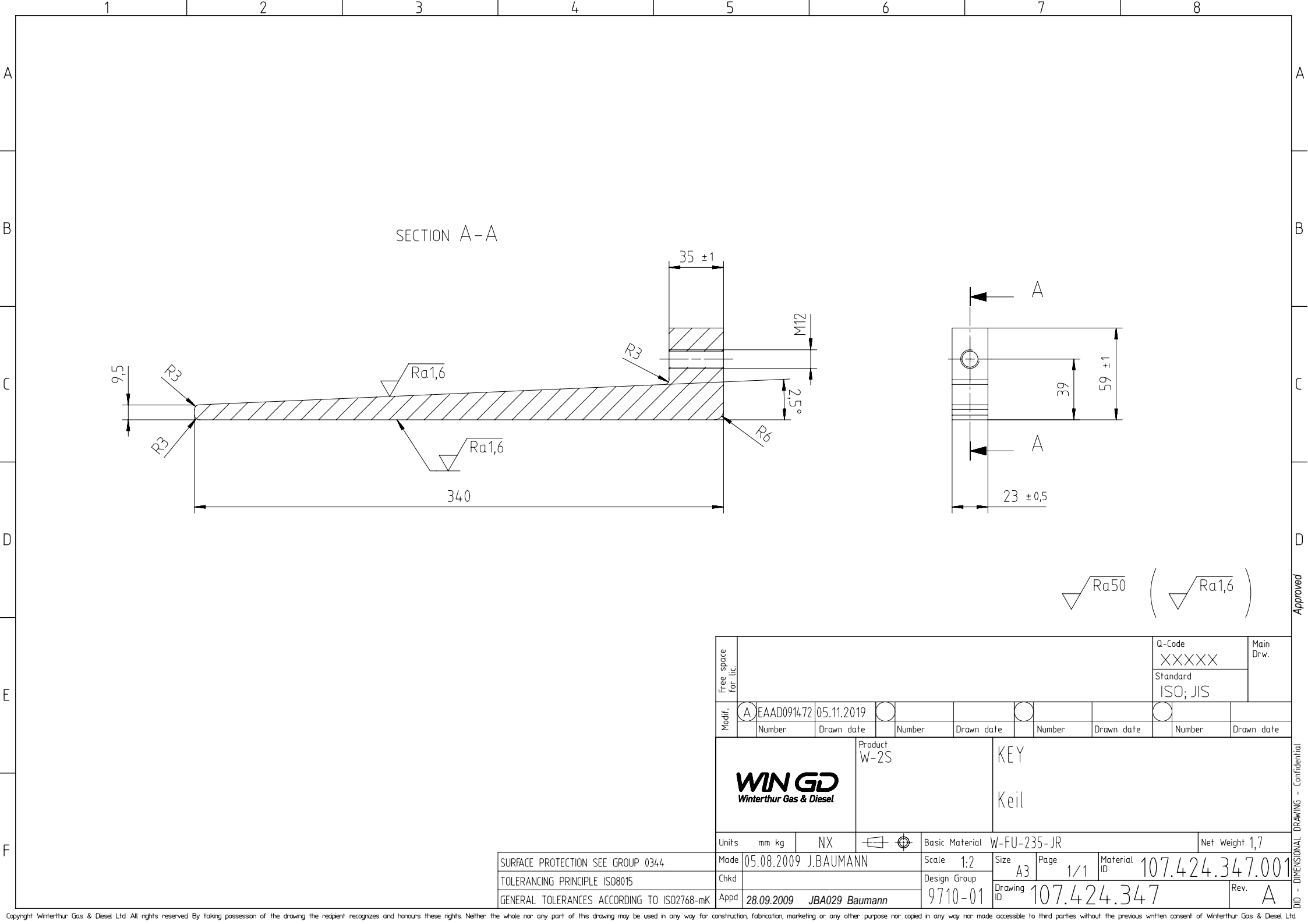


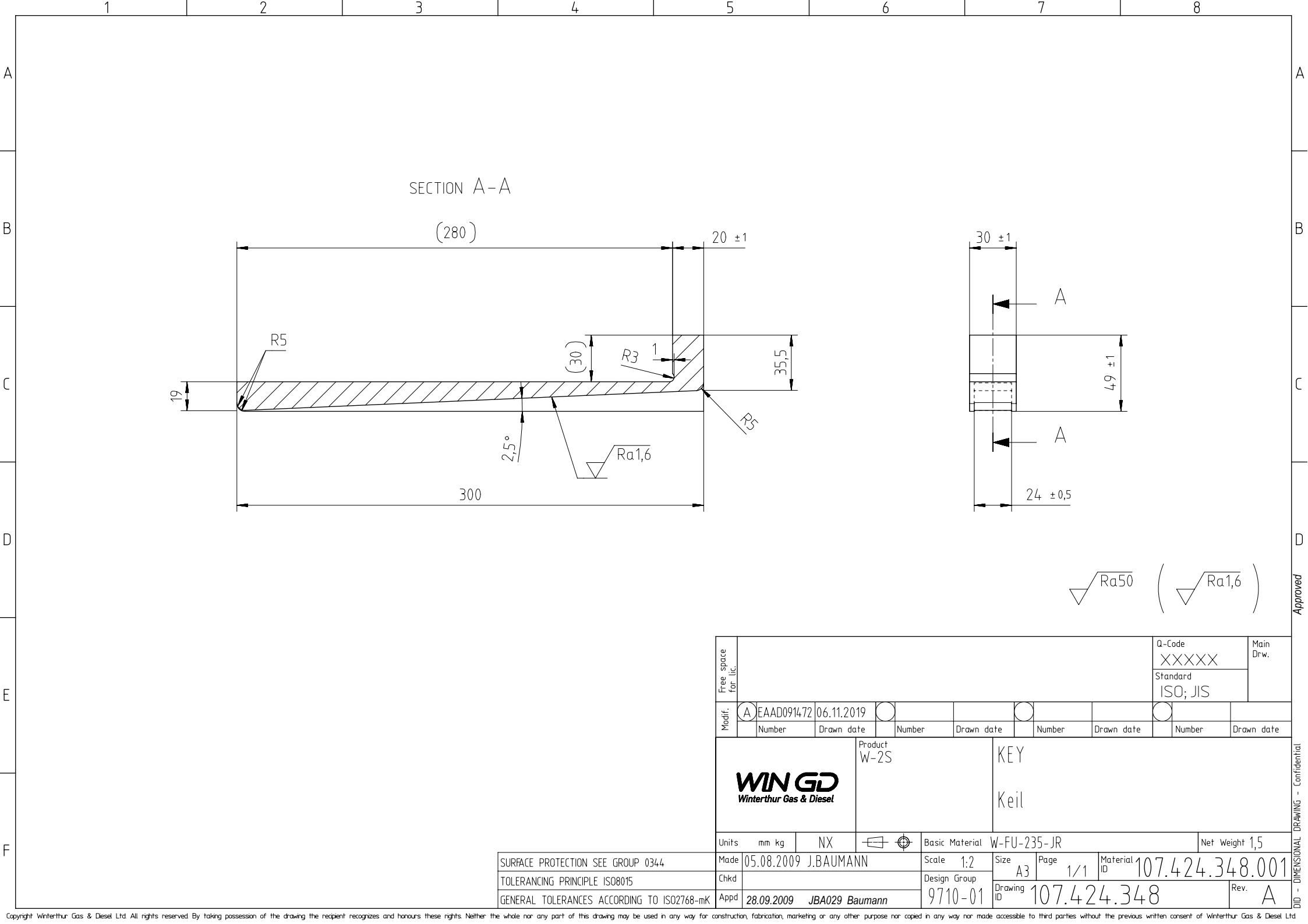


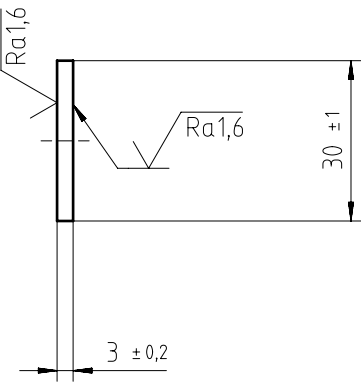
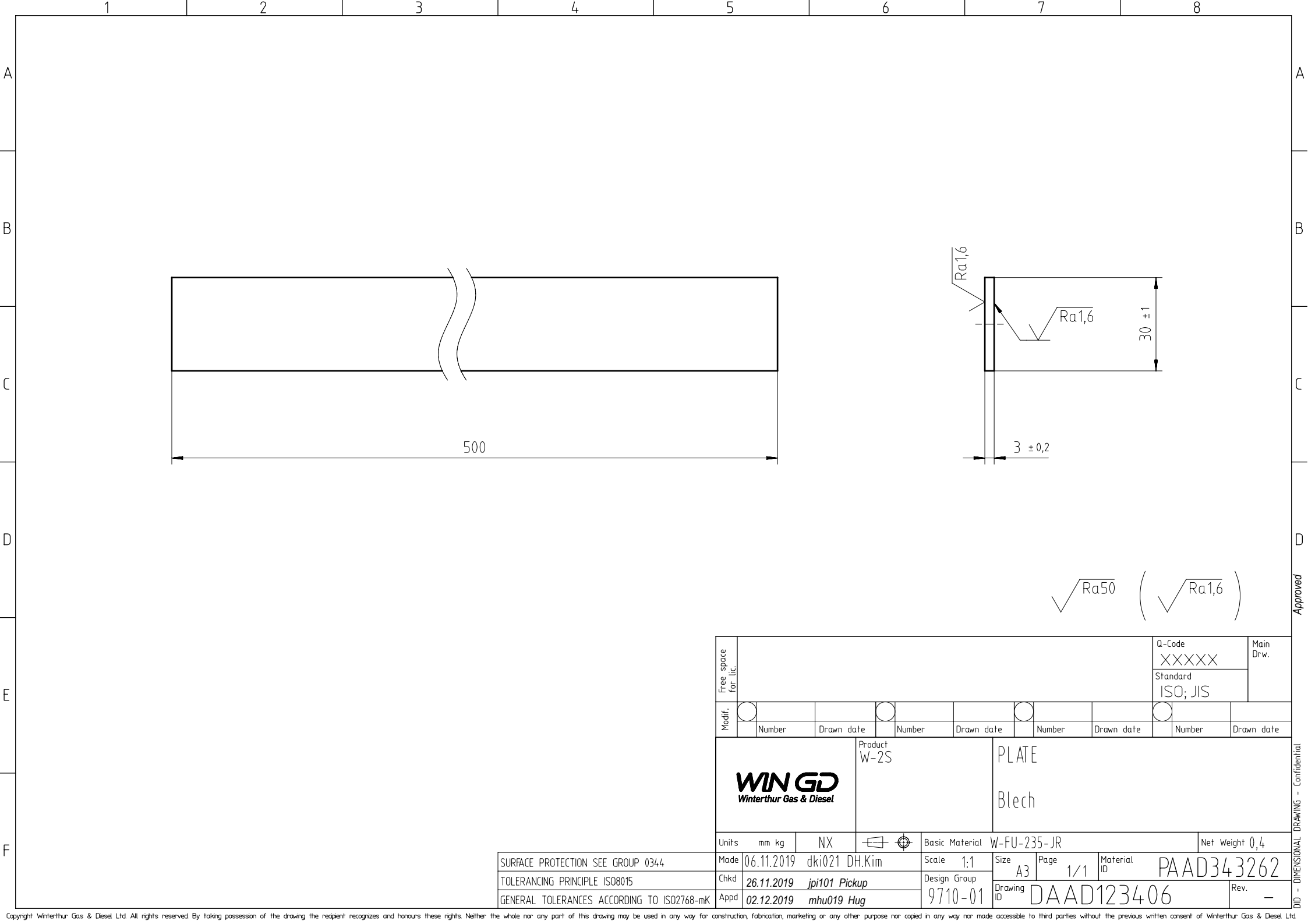
Free space for lic.								Q-Code	Main Drw.			
								XXXXXX				
								Standard ISO; JIS				
Modif.	A	EAAD014305	11.09.1996	B	EAAD091472	05.11.2019						
		Number	Drawn date		Number	Drawn date		Number	Drawn date			
WIN GD <i>Winterthur Gas & Diesel</i>			Product W-2S		PLATE Blech							
Units	mm kg	NX			Basic Material W-FU-235-JR				Net Weight 1			
Made	11.07.1996	D. Schaeffler			Scale	1:1	Size	A3	Page	1/1	Material ID	107.245.898.001
Chkd					Design Group	9710-01	Drawing ID	107.245.898			Rev.	B
Appd	22.07.1996 MLU011 Lüthi											



1	004	015.151.040.701	HEXAGON HEAD SCREW M12x200		ISO 4017	8.8	0,156	
1	003	PAAD34.3262	PLATE		DAAD1234.06	W-FU-235-JR	0,4	
1	002	107.424.348.001	KEY		107.424.348	W-FU-235-JR	1,5	
1	001	107.424.347.001	KEY		107.424.347	W-FU-235-JR	1,7	
QTY	SEQ NO	Material ID	Material Name		Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET
Free space for lic.						Q-Code XXXXXX	Main Drw.	
						Standard ISO; JIS		
Modif.	A	EAAD084635	27.06.2013	B	EAAD091472	06.11.2019		
	Number		Drawn date		Number	Drawn date	Number	Drawn date
 Winterthur Gas & Diesel			Product W-25		WEDGE			
					Schraeger Keil			
Units	mm kg	NX			Basic Material W-FU-235-JR		Net Weight 3.8	
Made	05.08.2009	jba029	J.BAUMANN		Scale	1:2	Size	A2
					Page	1/1	Material ID	107.424.346.200
Appd	28.09.2009	JBA029 Baumann		9710-01	Drawing ID	107.424.346		Rev.
								B







√ Ra50 (√ Ra1,6)

Free space for lic.								Q-Code XXXXXX	Main Drw.
								Standard ISO; JIS	
Modif.	☐			☐			☐		
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	
WIN GD Winterthur Gas & Diesel			Product W-2S		PLATE Blech				
Units	mm kg	NX		Basic Material W-FU-235-JR				Net Weight 0,4	
Made	06.11.2019	dkl021 DH.Kim	Scale 1:1		Size A3	Page 1/1	Material ID	PAAD343262	
Chkd	26.11.2019	jpi101 Pickup	Design Group		Drawing ID	DAAD123406			Rev. -
Appd	02.12.2019	mhu019 Hug	9710-01						

MIDS - WinGD X92/-B/DF – Tool Engine Alignment (DG9710-01)

TRACK CHANGES

DATE	SUBJECT	DESCRIPTION
2017-01-13	DRAWING SET	First web upload
2017-11-17	DAAD094562	Tool Arrangement, 12cyl drg - new added
2018-06-13	DAAD100823	Tool Arrangement, 9cyl drg - new added
2019-10-03	DAAD044462 DAAD044255 DAAD094562 DAAD070098 DAAD100823	Tool Arrangement drgs - new revision
2020-09-29	DAAD044462 107.245.895 107.246.895 107.246.894 107.245.898 107.424.346 107.424.347 107.424.348	System and wedge assembly drgs – new revision

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