

Assessment of Thermal Cutting Process



D. KENNEDY Steel Supplies Ltd.

Tested in accordance with:	EN1090-2 (Annex D) EN ISO 9013
Type of cutting process:	Laser cutting
Manufacturer:	D. Kennedy Steel Supplies
Machine make & model	HSG – G4020H / Raycus RFL-C20000M-CE
Material thickness:	6mm
CPQR No:	36267.01 / 6mm Laser HSG
Documents included in this pack:	<ol style="list-style-type: none">1. Preliminary Cutting Procedure Specification (pCPS)2. Cutting Procedure Qualification Record (CPQR)3. Surface Roughness, Visual and Perpendicularity Report4. Hardness Test Report



Preliminary Cutting Procedure Specification (pCPS)

EIS FORM No.pCPS EN 1090

pCPS No.	PRELIM-36267.01 / 6mm Laser HSG
Manufacturer of thermal cut sample:	D. KENNEDY STEEL SUPPLIES
Address	PALMERSTOWN LOWER DUBLIN 20
In accordance with:	EN 1090-2:2018 – Annex D
Acceptance standard:	EN ISO 9013:2017
Date of manufacture:	14/10/2025

Cutting process:	Laser
Manufacturer of the cutting machine:	HSG / G4020H / RAYCUS
Type of cut:	Vertical Cut - Straight & Contoured As per figure D.1 of EN 1090-2:2018
Designation of the cutting torch:	HSG – BCL AMP
Designation of the cutting nozzle:	HSG – D1.2E
Manufacturer of the cutting torch/nozzle:	HSG
Standard:	EN 1090-2:2018 & EN ISO 9013:2017
Material group:	1 - Steels with a specified minimum yield strength $ReH \leq 460 \text{ N/mm}^2$
Thickness of material:	6mm
Type of plasma gas:	Oxygen
Plasma gas cutting pressure:*	11.6psi / 0.8bar
Fuel gas pressure:*	-
Cutting oxygen pressure:*	-
Adjustment of heating flame:	-
Cutting speed:	2502mm/m
Cutting height:	0.5mm
Preheat temperature:	-
Angle of cut (if bevel):	-
Thermal follow up treatment:	-
Type of pre/post-heating torch:	-
Designation of heating torch:	-
Manufacturer of heating torch:	-
Type of fuel gas:	-
Oxygen / compressed air pressure:	-
Fuel gas pressure:	-

* PRESSURE MEASURED AT THE INLET OF THE TORCH



Cutting Procedure Qualification Record (CPQR)

EIS FORM No.CPQR EN 1090

pCPS No.:	PRELIM-36267.01 / 6mm Laser HSG	CPQR No.:	36267.01 / 6mm Laser HSG
-----------	---------------------------------	-----------	--------------------------

Manufacturer of thermal cut sample:	D.KENNEDY STEEL SUPPLIES		
Address:	PALMERSTOWN LOWER, DUBLIN 20		
In accordance with:	EN 1090-2:2018 – Annex D		
Acceptance standard:	EN ISO 9013:2017		
Date of manufacture:	14/10/2025		

Cutting process:	Laser		
Manufacturer of the cutting machine:	HSG / G4020H / RAYCUS		
Type of cut:	Vertical Cut - Straight & Contoured	As per figure D.1 of EN 1090-2:2018	
Designation of the cutting torch:	HSG – BCL AMP		
Designation of the cutting nozzle:	HSG – D1.2E		
Manufacturer of the cutting torch/nozzle:	HSG		
Standard:	EN 1090-2:2018 & EN ISO 9013:2017		

	Test Piece Details	Range of Approval
Material group:	1 (ReH ≤ 460 N/mm ²)	1 - 1a, 2b (except 1.4)
Thickness of material:	6mm	6 – 35mm (in conjunction with 36267.02)
Type of plasma gas:	Oxygen	-
Plasma gas cutting pressure:*	11.6ps / 0.8 bari	Automatic processes
Fuel gas pressure:*	-	+/- 5%
Cutting oxygen(air) pressure:*	-	+ 0% / - 15%
Adjustment of heating flame:	-	-
Cutting speed:	2502mm/m	+10% / -0%
Cutting height:	0.5mm	+/- 10%
Preheat temperature:	-	+/- 10%
Angle of cut (if bevel):	-	-
Thermal follow up treatment:	-	-
Type of pre/post-heating torch:	-	-
Designation of heating torch:	-	-
Manufacturer of heating torch:	-	-
Type of fuel gas:	-	-
Oxygen / compressed air pressure:	-	-
Fuel gas pressure:	-	-

* PRESSURE MEASURED AT THE INLET OF THE TORCH

Type of test	Performed and acceptable	Report number
Surface Roughness Test	Yes	10025
Perpendicularity and Angularity Tolerance	Yes	10025
Visual Inspection of Sharp corner & Curved Samples	Yes	10025
Hardness Test on Flame Cut Edges	Yes	10026

This record confirms that the manufacturing of the thermal cut sample was satisfactorily prepared, produced and tested according to the requirements of 6.4.3 & 6.4.4 of EN 1090-2:2018 Exc Class 2

Place & Date of issue:	Dublin 14/10/2025	Manufacturer:	R.W.C.	Signed:	
Examining Body:	Engineering Inspection Specialists	Examiner:	Niall O'Brien	Signed:	

Cutting Procedure Inspection Report

EIS FORM No.CPTR 001

Test Report No.:	10025	Date:	16/10/2025
EIS Job No.:	36267		

Manufacturer:	D. KENNEDY STEEL SUPPLIES
Address:	PLAMERSTOWN LOWER, DUBLIN 20
Manufacturers pCPS No.:	PRELIM 36267.01 / 6mm Laser HSG
Manufacturers CPQR No.:	36267.01 / 6mm Laser HSG

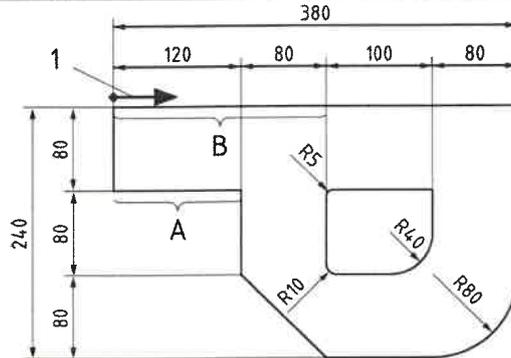
Procedure No.:	In Accordance with:	Acceptance Criteria
Procedure for Checking Capability of Thermal Cutting Process	EN 1090-2:2018 Annex D	EN ISO 9013:2017 (Range 4 & 5)

Test Equipment Used			
Surface Roughness Equipment			
Surface Roughness Test Unit	Diavite AG	Unit Serial No.	01608
Probe / Tracer Type:	SH-00/10/90/5	Probe Serial Number:	9958
Calibration Block Type Settings:	Ra=3.00 / Sm=100 / Rz=9.46	Calibration Block Serial Number:	2423
Visual Inspection & Measurement Equipment			
Digital Calipers:	Accu Inside 1108	Measurement Reticule:	0.1mm Increments

Cutting Machine Details	
Machine Manufacturer:	HSG / RAYCUS
Model:	G4020H / RFL-C20000M-CE
Serial Number:	12012501035
Material Thickness:	6mm
Material Grade:	S355

Test Results

Test Piece Shape & Dimensions - Figure D.1 (EN 1090-2:2018)



Picture of Test Piece & Test Location





Cutting Procedure Inspection Report

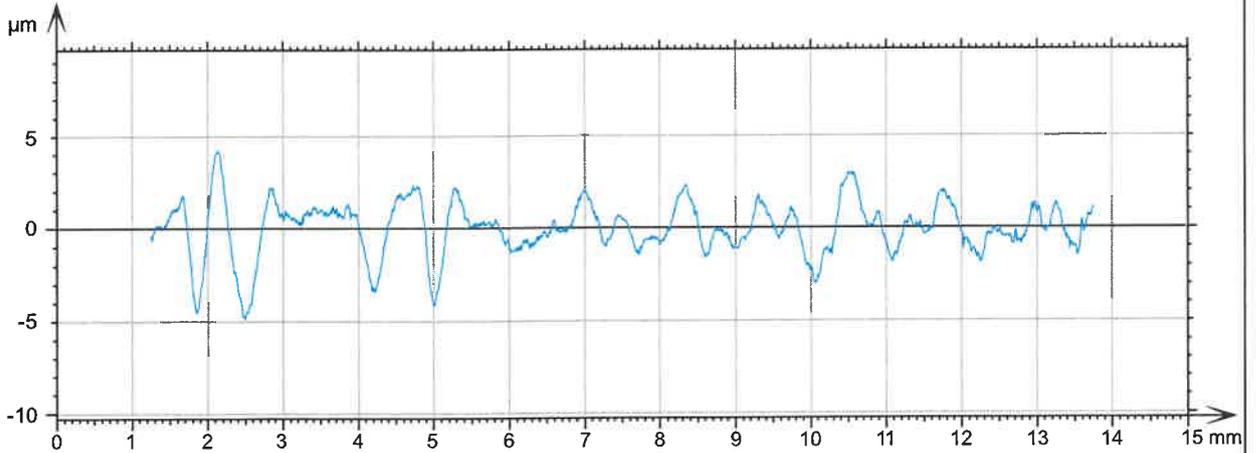
EIS FORM No.CPTR 001

Test Report No.:	10025	Date:	16/10/2025
EIS Job No.:	36267		

Manufacturer:	D. KENNEDY STEEL SUPPLIES
Address:	PLAMERSTOWN LOWER, DUBLIN 20
Manufacturers pCPS No.:	PRELIM 36267.01 / 6mm Laser HSG
Manufacturers CPQR No.:	36267.01 / 6mm Laser HSG

Surface Roughness Evaluation Profile Sample:

Filtered profiles - Levelled (minimum zone method)



Information

Profile	Roughness profile
Filter settings	Gaussian filter, cut-off 2.50 mm

Element:	Zt1	Zt2	Zt3	Zt4	Zt5
Element Profile µm	8.8	8.9	6.3	6.1	5.2

Item / Description	Result / Data	Pass		
		Yes	No	N/A
Plate Thickness	6mm	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Thickness Reduction Δa	0.3mm	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Allowable Mean Height Profile	120µm	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Measured Mean Height Profile Rz5	7.06µm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allowable Perpendicularity Tolerance	1.39mm	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Actual Perpendicularity Value	0.3mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visual Inspection Sharp Corner	Acceptable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visual Inspection Curved Sample	Acceptable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TECHNICIAN:	NIAL O'BRIEN	QUALIFICATION:	PCN LEVEL II	DATE:	16/10/2025
SIGNATURE:		FIRM OFFICAL STAMP:			
INSPECTION AUTHORITY:	EN ISO 1090-2:2018 (Annex D) & EN ISO 9013:2017				
CLIENT WITNESS / R.W.C.:					



Cutting Procedure Inspection Report - Hardness

EIS FORM No.CPTR 002

Test Report No.:	10026	Date:	16/10/2025
EIS Job No.:	36267		

Manufacturer:	D. KENNEDY STEEL SUPPLIES
Address:	PLAMERSTOWN LOWER, DUBLIN 20
Manufacturers pCPS No.:	PRELIM 36267.01 / 6mm Laser HSG
Manufacturers CPQR No.:	36267.01 / 6mm Laser HSG

Procedure No.:	In Accordance with:	Acceptance Criteria
Procedure for Checking Capability of Thermal Cutting Process	EN 1090-2:2018 Annex D / EN 9015-1:2011 / EN 6507-1:2018	-

Test Equipment Used			
Hardness Tester Make	NewSonic	Unit Serial No.	778
Hardness Tester Model:	SonoDur2		

Cutting Machine Details	
Machine Manufacturer:	HSG / RAYCUS
Model:	G4020H / RFL-C20000M-CE
Serial Number:	12012501035
Material Thickness:	6mm
Material Grade:	S355

Test Locations

Test Piece Shape & Dimensions - Figure D.1 (EN 1090-2:2018)	
Hardness test carried out on surfaces A & B Position of readings as per EN1090-2:2018 figure D.4 & table D.1	
$t \leq 5$	$t > 5$
Indent Numbers	Indent Numbers

Test Results

Free Surface	Hardness Type	Tested in Accordance with:
A	Vickers HV10	EN ISO 6507-1:2018 & EN 1090-2:2018 Annex D
B	Vickers HV10	EN ISO 6507-1:2018 & EN 1090-2:2018 Annex D

Please see the following tables for all hardness reading taken.



Cutting Procedure Inspection Report - Hardness

EIS FORM No.CPTR 002

Test Report No.:	10026	Date:	16/10/2025
EIS Job No.:	36267		

Manufacturer:	D. KENNEDY STEEL SUPPLIES
Address:	PLAMERSTOWN LOWER, DUBLIN 20
Manufacturers pCPS No.:	PRELIM 36267.01 / 6mm Laser HSG
Manufacturers CPQR No.:	36267.01 / 6mm Laser HSG

Free Edge Surface - A			
Plate Thickness:	6mm	Total Indents Required:	15

Indent Number	Required (Y/N)	Hardness HV	Position on Free Edge Surface (Cut Surface)
I1	Y	385	Upper side of plate
I2	Y	397	Upper side of plate
I3	Y	388	Upper side of plate
I4	Y	381	Upper side of plate
I5	Y	373	Upper side of plate
I6	Y	377	Centre of plate
I7	Y	372	Centre of plate
I8	Y	386	Centre of plate
I9	Y	380	Centre of plate
I10	Y	384	Centre of plate
I11	Y	391	Lower side of plate
I12	Y	379	Lower side of plate
I13	Y	385	Lower side of plate
I14	Y	377	Lower side of plate
I15	Y	386	Lower side of plate

Free Edge Surface - B			
Plate Thickness:	6mm	Total Indents Required:	15

Indent Number	Required (Y/N)	Hardness HV	Position on Free Edge Surface (Cut Surface)
I1	Y	386	Upper side of plate
I2	Y	381	Upper side of plate
I3	Y	393	Upper side of plate
I4	Y	394	Upper side of plate
I5	Y	383	Upper side of plate
I6	Y	396	Centre of plate
I7	Y	390	Centre of plate
I8	Y	392	Centre of plate
I9	Y	385	Centre of plate
I10	Y	380	Centre of plate
I11	Y	377	Lower side of plate
I12	Y	386	Lower side of plate
I13	Y	398	Lower side of plate
I14	Y	393	Lower side of plate
I15	Y	397	Lower side of plate

TECHNICIAN:	NIALL O'BRIEN	QUALIFICATION:	PCN LEVEL II	DATE:	16/10/2025
SIGNATURE:		FIRM OFFICIAL STAMP:			
INSPECTION AUTHORITY:	EN ISO 1090-2:2018 (Annex D) & EN ISO 9013:2017 & EN ISO 6507-1				
CLIENT WITNESS:					