

Brigadier ® Rizwan Ullah Saeed

**Test Performed By:**

**Dr. /Engr.**

S. Asad Ali Gillani

RE. (ER)-OCL, Re-Const of Rigid Runway, FIAP,Fsd., (Osmani & Co. Pvt. Ltd. FSD International Airport)

**Client Reference:** OCL/C-126/CAA-FIAP/2020/1109/106

**Dated:** 11-09-2020

**SOM Lab Ref:** CED/SOM/2986(Page-3/3)

**Dated:** 23-09-2020

**Test:** Tension Test & Bend Test

**Test Specification:** ASTM-A 615

**Sample Type:** Deformed Bar (Ittefaq Steel)

**Gauge Length:** 200 mm

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	kg/m	mm	mm	mm <sup>2</sup>	mm <sup>2</sup>	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	3.866	25	25.03	491	492	259.50	356.50	529	528	726	725	32.5	200	16.3	
2	3.846	25	24.98	491	490	261.00	354.50	532	533	722	724	25.0	200	12.5	
3	2.427	20	19.84	314	309	164.50	217.50	524	533	692	704	27.5	200	13.8	
4	3.029	20	22.17	314	386	164.00	216.90	522	425	690	563	27.5	200	13.8	
5	1.544	16	15.83	201	197	99.50	138.50	495	506	689	705	30.0	200	15.0	
6	1.546	16	15.84	201	197	99.90	139.20	497	508	692	707	27.5	200	13.8	
7	0.882	12	11.96	113	112	58.20	78.70	515	518	696	701	32.5	200	16.3	
8	0.880	12	11.95	113	112	57.50	78.70	508	513	696	702	30.0	200	15.0	
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**BEND TEST:**

25mm	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Twelve Samples Received and Tested
20mm	Sample bend through 180 degrees Satisfactorily without any crack	
16mm	Sample bend through 180 degrees Satisfactorily without any crack	
12mm	Sample bend through 180 degrees Satisfactorily without any crack	

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

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**Dr. /Engr.**

S. Asad Ali Gillani

RE. (ER)-OCL, Re-Const of Rigid Runway, FIAP, Fsd., (Osmani & Co. Pvt. Ltd. FSD International Airport)

**Client Reference:** OCL/C-126/CAA-FIAP/2020/1109/104

**Dated:** 11-09-2020

**SOM Lab Ref:** CED/SOM/2986(Page-1/3)

**Dated:** 23-09-2020

**Test:** Tension Test & Bend Test

**Test Specification:** ASTM-A 615

**Sample Type:** Deformed Bar (Mughal Steel)

**Gauge Length:** 200 mm

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	kg/m	mm	mm	mm <sup>2</sup>	mm <sup>2</sup>	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	3.920	25	25.21	491	499	248.70	337.70	507	499	688	677	32.5	200	16.3	
2	3.896	25	25.14	491	496	248.50	341.20	506	501	695	688	37.5	200	18.8	
3	2.575	20	20.44	314	328	160.20	214.20	510	489	682	653	35.0	200	17.5	
4	2.525	20	20.24	314	322	160.50	215.00	511	499	684	669	32.5	200	16.3	
5	1.582	16	16.02	201	202	103.50	143.00	515	514	711	710	32.5	200	16.3	
6	1.580	16	16.01	201	201	107.00	141.00	532	532	701	701	30.0	200	15.0	
7	0.897	12	12.07	113	114	58.70	81.00	519	514	716	709	27.5	200	13.8	
8	0.886	12	11.99	113	113	58.20	81.70	515	516	722	724	25.0	200	12.5	
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**BEND TEST:**

25mm	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Twelve Samples Received and Tested
20mm	Sample bend through 180 degrees Satisfactorily without any crack	
16mm	Sample bend through 180 degrees Satisfactorily without any crack	
12mm	Sample bend through 180 degrees Satisfactorily without any crack	

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

Abdullah Muhammad Khadim  
Resident Engineer, DAR Engineering

**Test Performed By:** Dr. /Engr. S Asad Ali Gillani

**Client Reference:** DB-78/DAR/RE/ME/2020/0232

**Dated:** 22-09-2020

**SOM Lab Ref:** CED/SOM/2992 (Page-1/1)

**Dated:** 23-09-2020

**Test:** Tension Test & Bend Test

**Test Specification:** ASTM-F-1554

**Sample Type:** J Bolt

**Gauge Length:** 200 mm

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	kg/m	mm	mm	mm <sup>2</sup>	mm <sup>2</sup>	kN	kN	MPa	MPa	MPa	MPa	mm	mm	%	
1	3.949	25	25.31	491	503	172.50	266.70	351	343	543	531	45.0	200	22.5	
2	4.068	25	25.69	491	518	181.20	286.40	369	350	583	553	42.5	200	21.3	
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**BEND TEST:**

25mm	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Three Samples Received and Tested

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)

M. Zain-UI\_Abadeen  
Assistant Resident Engineer, NESPAK, Lahore

Test Performed By: Dr. /Engr. S. Asad Ali Gillani

Client Reference: 3882/11/MZA/01/208

SOM Lab

Ref: 2978(Page-1/1)

Dated: 16-09-2020

Dated: 22-09-2020

Test: Tension Test & Bend Test

Test Specification:

ASTM-A-615

Gauge Length: 8 inch

Sample Type:

Deformed Bar (SJ Steel)

S.No.	Weight	Dia.		Area		Yield Load	Ultimate Load	Yield Stress		Ult. Stress		Elongation	Gauge Length	%age Elongation	Remarks
		Nominal	Calculated	Nominal	Calculated			(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)				
	lb/ft	#	in	in <sup>2</sup>	in <sup>2</sup>	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.039	5	0.623	0.31	0.305	8.84	13.48	62880	63910	95880	97450	1.20	8.0	15.0	
2	1.043	5	0.625	0.31	0.307	8.89	13.53	63240	63860	96240	97180	1.30	8.0	16.3	
3	0.650	4	0.493	0.20	0.191	6.14	8.43	67670	70860	92960	97340	1.30	8.0	16.3	
4	0.660	4	0.497	0.20	0.194	6.14	8.46	67670	69770	93300	96190	1.20	8.0	15.0	
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**BEND TEST:**

# 5	Sample bend through 180 degrees Satisfactorily without any crack	<b>Note:-</b>  Only Six Samples Received and Tested
# 4	Sample bend through 180 degrees Satisfactorily without any crack	

Note: Please always confirm the results of above report on web [www.uet-civil.edu.pk](http://www.uet-civil.edu.pk)