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

Resident Engineer, NESPAK (Pvt) Ltd. Islamabad

SOM Lab

2842(Page-1/1) CPEC/NESPAK/RE/PKG3/20/1590 **Client Reference:** Ref: 16-08-2020 Dated:

16-08-2020 Dated:

Test Specification: Test: **Tension Test** ASTM-A-615 Gauge Length: 8 inch Sample Type: **Anchor Bolt**

		D	ia.	Aı	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress			'n	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.717	8	1.008	0.79	0.798	26.40	50.89	73710	72970	142060	140640	1.50	8.0	18.8	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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BEND TEST:

 No Bend test performed	Note:-
	Only One Sample
	Received and Tested

Sub Divisional Officer Test Performed By: Dr. /Engr. Nauman Khurram

Buildings Sub Division No. 15, Lahore

SOM Lab

Dated: 27-07-2020 **Dated:** 17-08-2020

Test:Tension Test & Bend TestTest Specification:ASTM-A-615Gauge Length:8 inchSample Type:Deformed Bar

		D	ia.	A	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress			ū	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.678	8	1.001	0.79	0.787	25.56	34.78	71350	71620	97100	97470	1.50	8.0	18.8	
2	2.678	8	1.001	0.79	0.787	25.23	34.58	70440	70700	96530	96900	1.50	8.0	18.8	
3	1.567	6	0.766	0.44	0.461	13.61	19.62	68210	65110	98360	93880	1.20	8.0	15.0	
4	1.509	6	0.751	0.44	0.443	13.53	19.59	67810	67350	98210	97540	1.10	8.0	13.8	
5	0.670	4	0.501	0.20	0.197	6.17	8.63	68010	69050	95210	96660	1.50	8.0	18.8	
6	0.681	4	0.505	0.20	0.200	6.14	8.74	67670	67670	96340	96340	1.40	8.0	17.5	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	

BEND TEST:

# 8	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
# 6	Sample bend through 180 degrees Satisfactorily without any crack	
# 4	Sample bend through 180 degrees Satisfactorily without any crack	Only Nine Samples
		Received and Tested

Sub Divisional Officer Test Performed By: Dr. /Engr. Nauman Khurram

Buildings Sub Division No. 12, Lahore

SOM Lab

Client Reference: 374/SDO12th Ref: 2844(Page-1/1)

Dated: 28-07-2020 **Dated:** 17-08-2020

Test:Tension Test & Bend TestTest Specification:ASTM-A-615Gauge Length:8 inchSample Type:Deformed Bar

		D	ia.	A	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress			Ē	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	2.716	8	1.008	0.79	0.798	25.35	34.88	70780	70070	97380	96410	1.30	8.0	16.3	
2	2.721	8	1.009	0.79	0.800	23.29	34.17	65030	64220	95390	94200	1.50	8.0	18.8	
3	1.504	6	0.750	0.44	0.442	12.86	18.67	64480	64190	93610	93180	1.30	8.0	16.3	
4	1.507	6	0.751	0.44	0.443	13.58	19.08	68060	67600	95650	95000	1.40	8.0	17.5	
5	0.669	4	0.501	0.20	0.197	6.19	8.63	68230	69270	95210	96660	1.10	8.0	13.8	
6	0.672	4	0.501	0.20	0.197	6.17	8.63	68010	69050	95210	96660	1.20	8.0	15.0	
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	

BEND TEST:

# 8	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
# 6	Sample bend through 180 degrees Satisfactorily without any crack	
# 4	Sample bend through 180 degrees Satisfactorily without any crack	Only Nine Samples
		Received and Tested

Engr. Muhammad Adnan, Test Performed By: Dr. /Engr. Muhammad Adnan, Hassan

Assistant Engineer, Women Universuty Multan

SOM Lab

 Client Reference:
 AE/WUM/141/D
 Ref:
 2846(Page-1/1)

 Dated:
 10-08-2020
 Dated:
 17-08-2020

Test:Tension TestTest Specification:ASTM-A-615Gauge Length:8 inchSample Type:Deformed Bar

			Dia.	А	rea	Yield	Ultimate	Yield	Stress	Ult. S	Stress			_	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	0.666	4	0.500	0.20	0.196	5.50	7.59	60700	61940	83750	85460	1.40	8.0	17.5	
2	0.666	4	0.500	0.20	0.196	5.40	7.70	59580	60800	84870	86600	1.30	8.0	16.3	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	1	-	-	-	-	-	1	1	-	-	-	1	-	
-	-	1	1	-	-	-	-	ı	1	-	-	-	1	-	
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BEND TEST:

 No Bend test performed	Note:-
	Only Two Samples
	Received and Tested

Muhammad Farrukh Saif Test Performed By: Dr. /Engr. Nauman Khurram

Resident Engineer, Engineering Consultancy Services Punjab (Pvt) Ltd. Lahore

SOM Lab

 Client Reference:
 314/PSIC/RE/02
 Ref:
 2847(Page-1/1)

Dated: 17-08-2020 **Dated:** 17-08-2020

Test:Tension Test & Bend TestTest Specification:ASTM-A-615Gauge Length:8 inchSample Type:Deformed Bar

		D	ia.	A	rea	Yield	Ultimate	Yield	Stress	Ult. S	tress			Ē	
S.No.	Weight	Nominal	Calculated	Nominal	Calculated	Load	Load	(according to nominal area)	(according to measured area)	(according to nominal area)	(according to measured area)	Elongation	Gauge Length	%age Elongation	Remarks
	lb/ft	#	in	in ²	in ²	Tons	Tons	psi	psi	psi	psi	in	in	%	
1	1.504	6	0.750	0.44	0.442	15.92	19.78	79810	79450	99130	98680	1.20	8.0	15.0	
2	1.505	6	0.750	0.44	0.442	15.57	19.52	78020	77670	97850	97410	1.40	8.0	17.5	
3	0.674	4	0.502	0.20	0.198	6.29	8.77	69360	70060	96670	97650	1.30	8.0	16.3	
4	0.673	4	0.502	0.20	0.198	6.24	8.66	68800	69490	95550	96510	1.30	8.0	16.3	
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BEND TEST:

# 6	Sample bend through 180 degrees Satisfactorily without any crack	Note:-
# 4	Sample bend through 180 degrees Satisfactorily without any crack	
		Only Six Samples
		Received and Tested