



# DEPARTMENT OF CHEMICAL ENGINEERING

University of Engineering and Technology, G.T. Road, Lahore, 54890 (PAKISTAN)

Ref. No. Chem. Engg 157

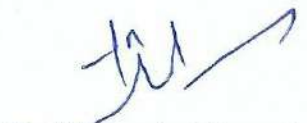
Dated: 07-03-2019

Mr. Zulfiqar Ali  
SDO Project M-2  
19 Engr Bn (Chaghai Sapper)  
Sheikhpura Camp C/O Sigcen (FWO)  
Chaklala


Subject: Testing of Expansion Joint Rubber Seal Model SFP – 180 from Wanbao Bridge Component Company China for Paneand Bridge North Bond at M-2.

With reference to your letter # 607/SDO B&R/Gen dated: 22.02.2019 on the subject cited above. The result of provided sample is as under:

Description / Test	Unit	Result	Standard Method (ASTM)
Ozone resistance, Exposure to 100 PPHM Ozone for 70 hours at 38°C. Sample under 20% Strain	Observation	No deformation No cracking	ASTM D-1149 Rubber deteriorate Cracking in an ozone controlled (satisfactory)
Tensile Strength	Kg/cm <sup>2</sup>	198	D-412
Elongation at Break	%	497	D-412
Compression set, 22 hrs @ 70°C	%	16.8	D-395 (Method B)
Hardness (Durometer A)	Points	47	D-2240
Low Temperature Brittleness, 5 hours at -40 °C.	Observation	No Brittle (Satisfactory)	D-746
Oil Deterioration- Volume increase after soaking in ASTM oil No. 3 for 70 hours at 100 °C.	%	38.2 (Swelling)	D-470

  
(Fayyaz A. Kirmani)  
Supervisor (Lab.)



  
(Prof. Dr. Ing. Naveed Ramzan)  
Chairman

Note: This test report is based on sample provided by the client. As sampling has not been performed by the Chemical Engineering Department. The authenticity of sample lies with the client. After completion of the report the sample will be reserved for fifteen days until negotiated otherwise. Non-negotiable results can not be challenged.