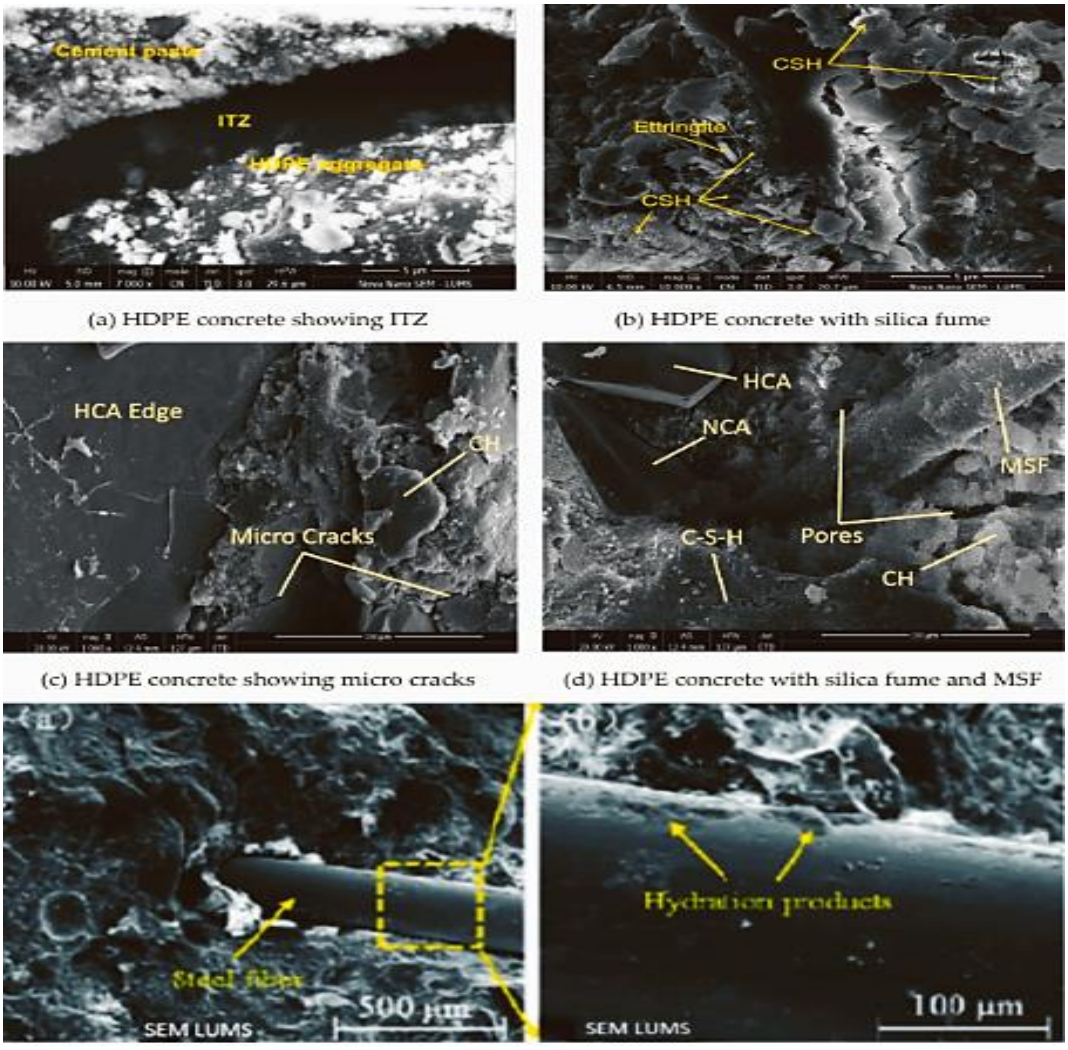

Fig.1 SEM Micrographs of Concrete Specimens Incorporating HDPE as Aggregate Alternative (Adapted from Syed Nasir Abbas et al., 2024)

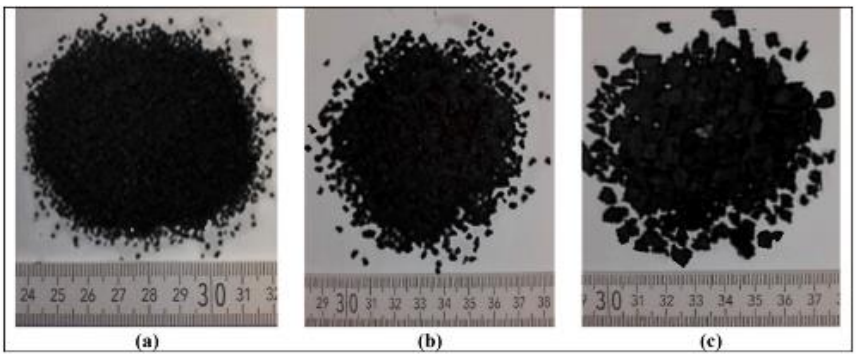

Fig.2 Rubber tire sizes are (a) #10, (b) #3/16, and (c) #3/8. Adapted from Mohammed A. Al-Osta et al., (2021)

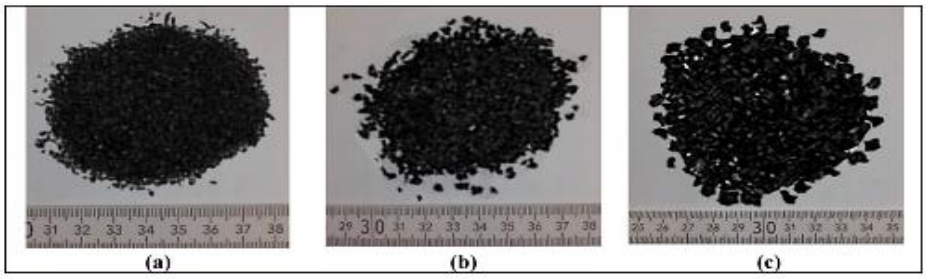

Fig.3 Sizes of HDPE: (a) Fine (#10); (b) coarse (#3/16); (c) coarse (#3/8). Adapted from Mohammed A. Al-Osta et al., (2021)

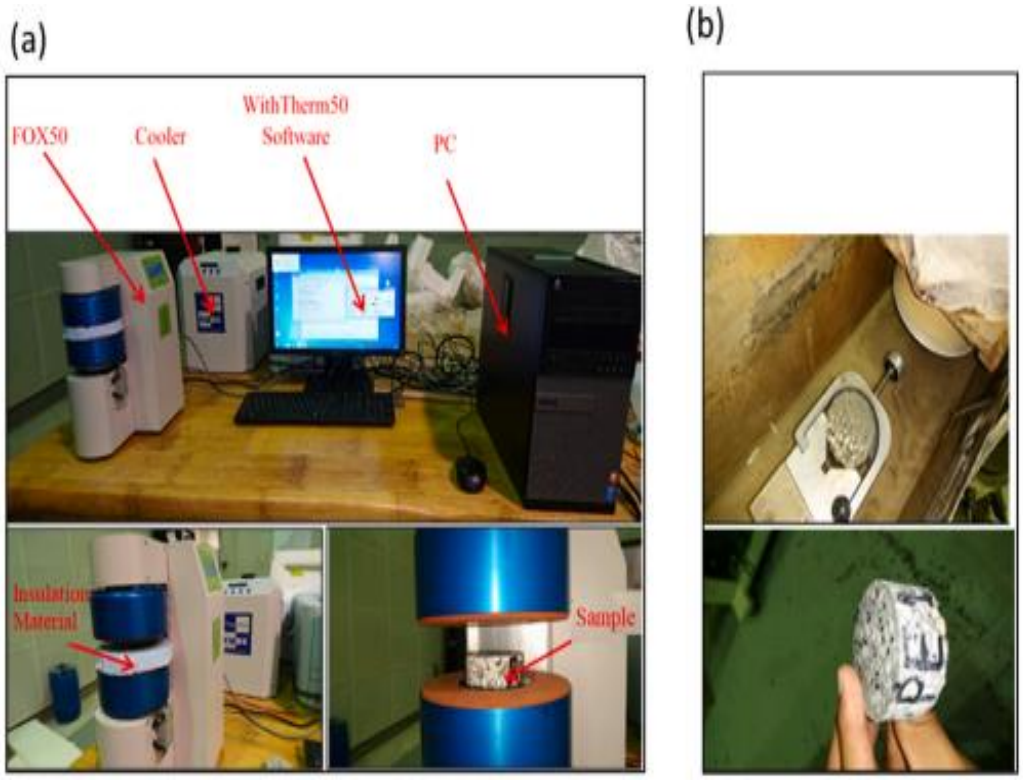

Fig.4 (a) FOX50 Heat Flow Meter Device Setup, (b) Polished Specimen from Both Surfaces. Adapted from Mohammed A. Al-Osta et al., 2021

Fig.5 Failure Modes of Compressive Strength (CS). Adapted from Mohammed A. Al-Osta et al., 2021

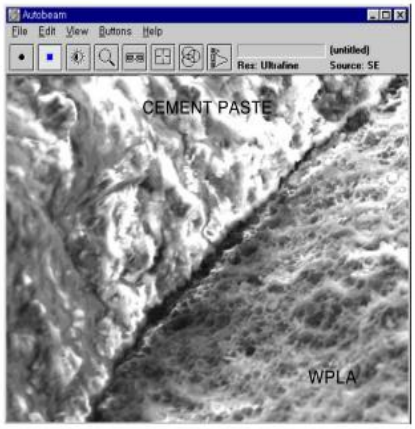

Fig.6 Zone of Transition in Mortar Between WPLA and Cement Paste (28 Days, Magnified x700). Adapted from Yun-WangChoi et al., 2004

Fig.7 Zone of Transition in Mortar Between Natural Aggregate and Cement Paste (28 Days, Magnified x700). Adapted from Yun-Wang Choi et al., 2004

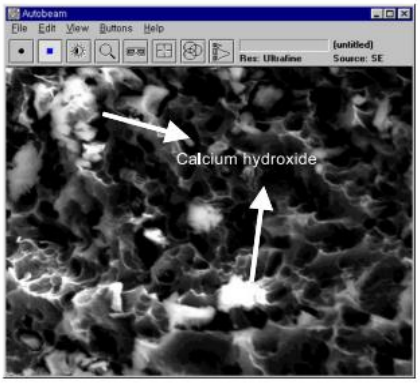

Fig.8 Shows the surface microstructure of WPLA in mortar after three and twenty-eight days, magnified by 2000. Adapted from Yun-Wang Choi et al., 2004

Fig.9 WPLA Surface Microstructure in Mortar (28 Days, x2000 Magnification). Adapted from Yun-Wang Choi et al., 2004

Fig.10 (a) PET waste following shredding, (b) Using PET in part to prepare a concrete sample. Adapted from Lukman Abubakar et al., 2024

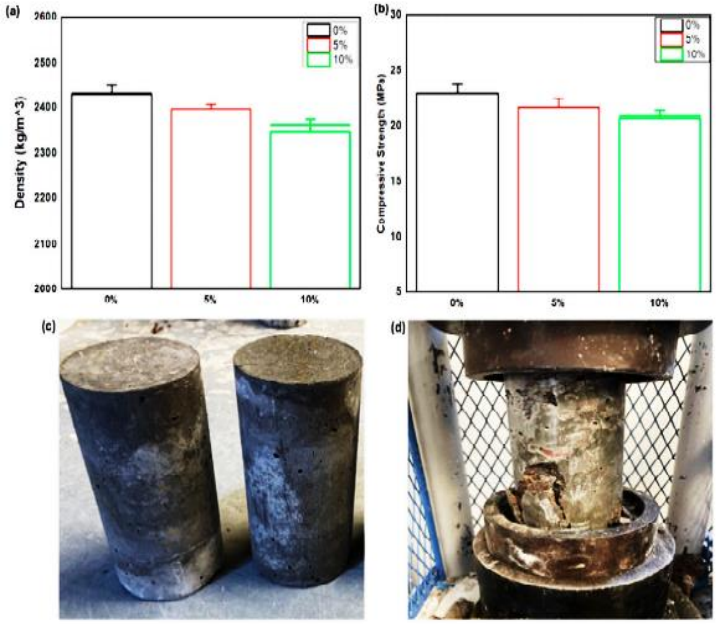

Fig.11 (a) concrete samples' density plot, (b) compressive strength plot, and (c,d) pictures of the concrete samples before and after they failed the compression test. Adapted from Lukman Abubakar et al., 2024

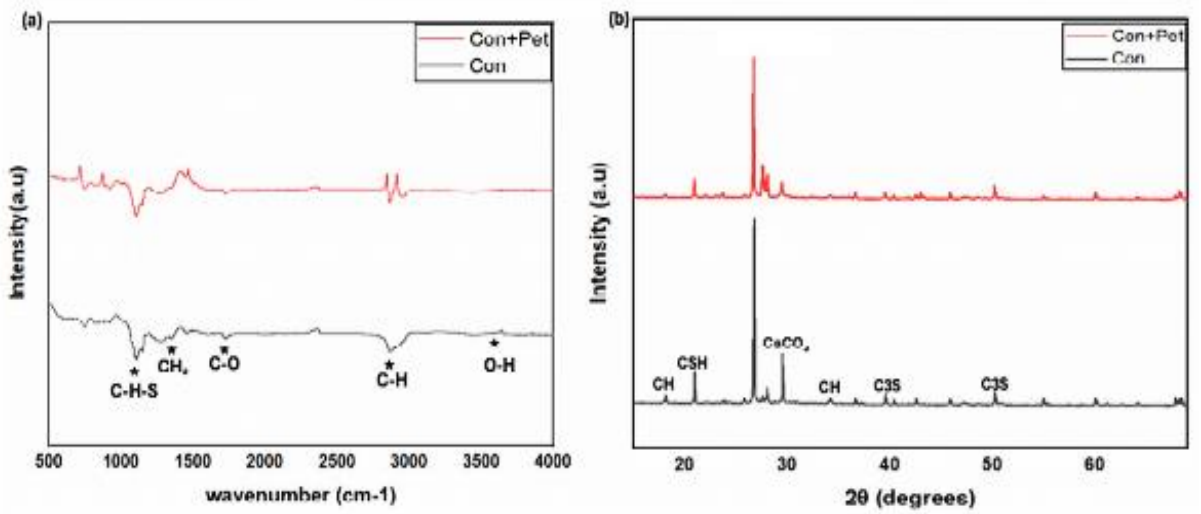

Fig.12 (a) The FTIR and XRD plots of concrete and concrete + PET and concrete both. Adapted from Lukman Abubakar et al., 2024

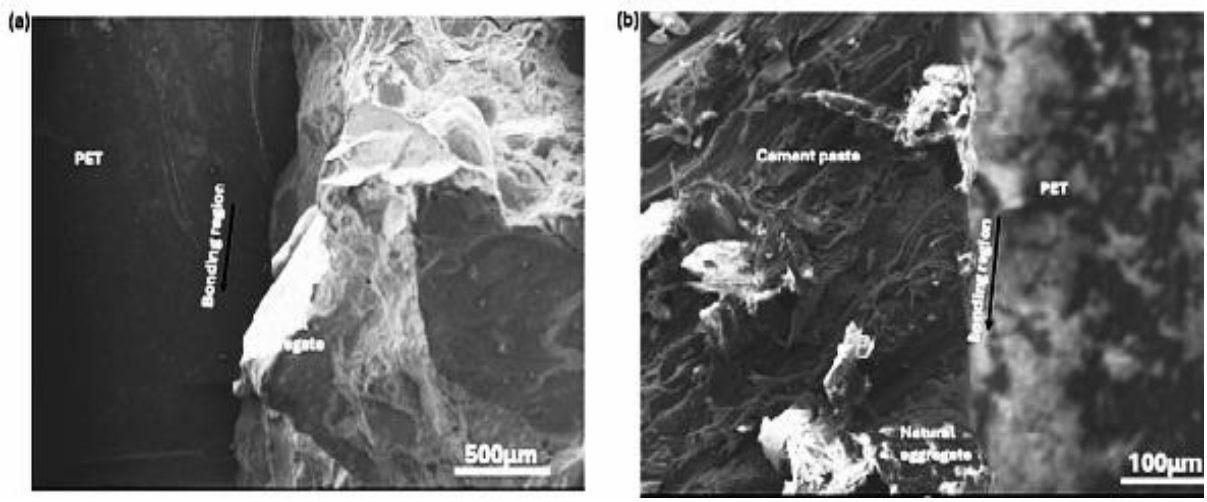

Fig.13 PET aggregate in concrete matrix as shown in SEM photos. Adapted from Lukman Abubakar et al., 2024


Fig.14 PET coarse aggregate. Adapted from Md. Jahidul Islam et al.,2016

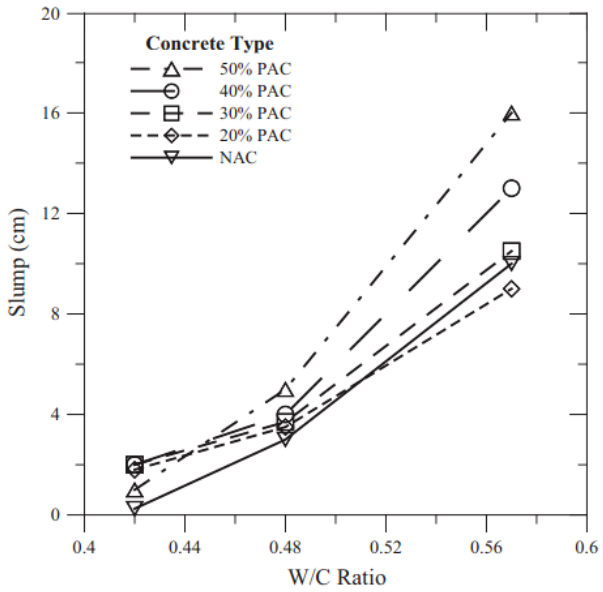

Fig.15 Slump values for various concrete type. Adapted from Md. Jahidul Islam et al.,2016

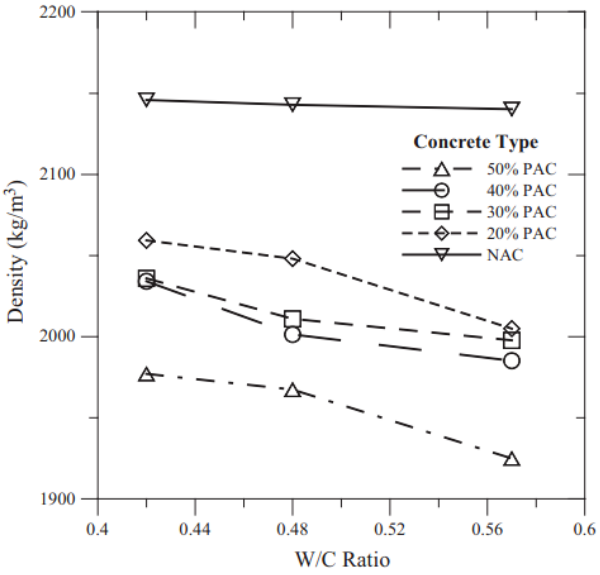

Fig.16 Density variation with w/c ratio for different types of concrete. Adapted from Md. Jahidul Islam et al.,2016

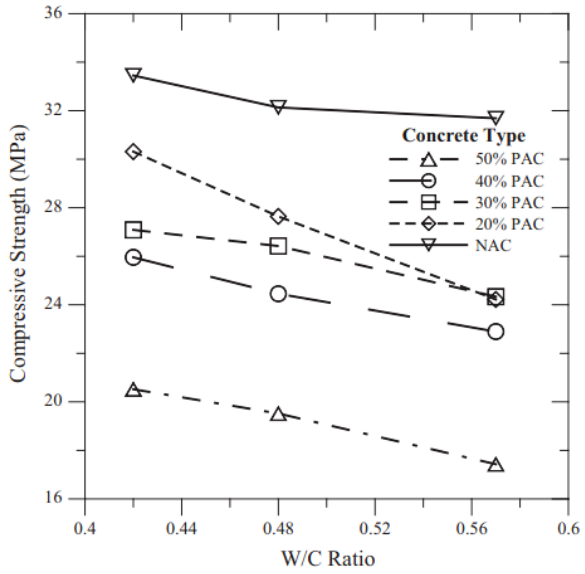

Fig.17 Concrete's compressive strength varies with the w/c ratio. Adapted from Md. Jahidul Islam et al.,2016

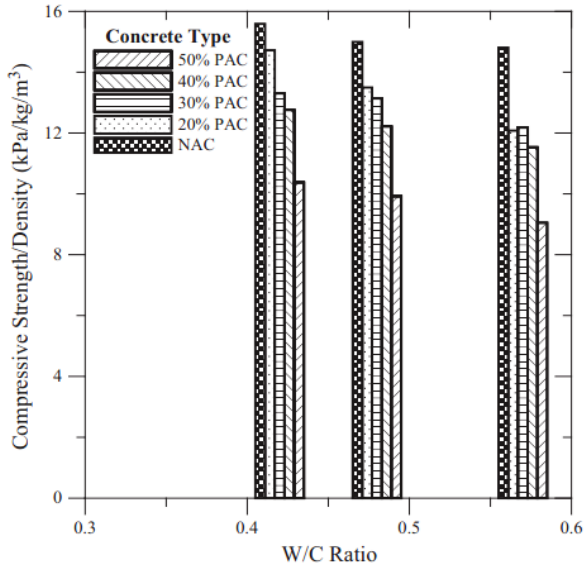

Fig.18 Changes in concrete's density and compressive strength with the w/c ratio. Adapted from Md. Jahidul Islam et al.,2016

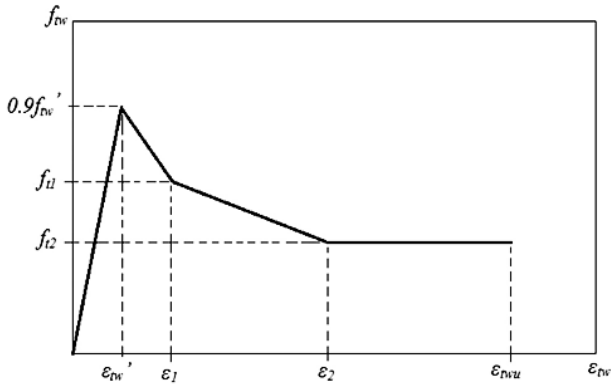

Fig.19 Proposed tensile stress-strain relationship for concrete made from recycled PET trash. Adapted from Azad A. Mohammed 2017