Figure 3.5.11 shows the TEM-EDS spectrum of the NiSi used on the polysilicon gates.

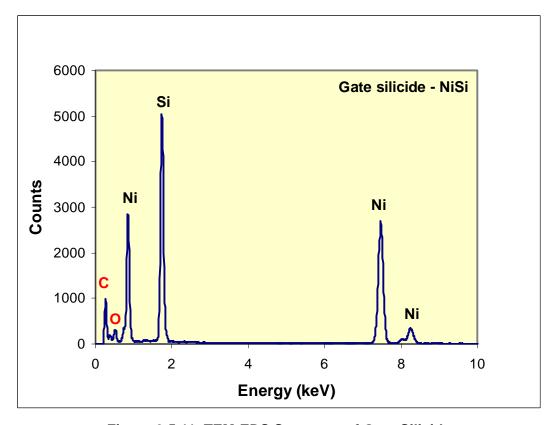


Figure 3.5.11 TEM-EDS Spectrum of Gate Silicide



3.6 Isolation

The XXXX uses shallow trench isolation (STI). The minimum width STI used on the part is $0.10 \, \mu m$ wide. The observed dimensions of the STI are listed in Table 3.6.1.

Feature	Size (µm)
Minimum width STI	0.10
STI thickness - beneath poly	0.32
STI thickness - beneath field	0.27

Table 3.6.1 Observed Isolation Dimensions



Figure 3.6.1 shows a TEM image of the 0.10 µm minimum width STI.

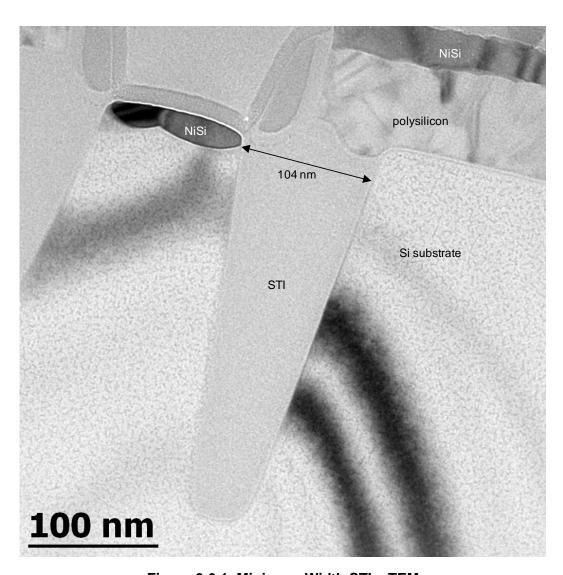


Figure 3.6.1 Minimum Width STI – TEM



Figure 3.6.2 shows the STI thickness. The STI is 0.32 μ m thick beneath the polysilicon lines, and 0.27 μ m thick where it was not protected during the sidewall spacer over etch.

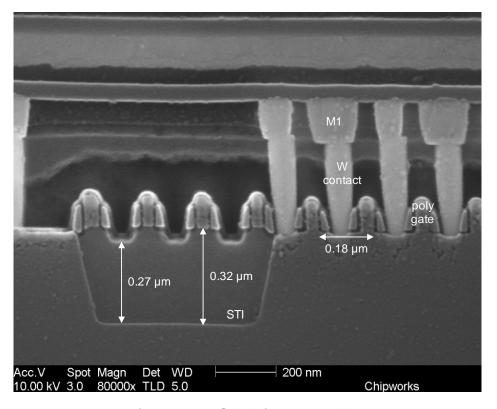


Figure 3.6.2 STI Thickness - TEM



Figure 3.6.3 shows a TEM view of poly over the 0.32 µm thick STI.

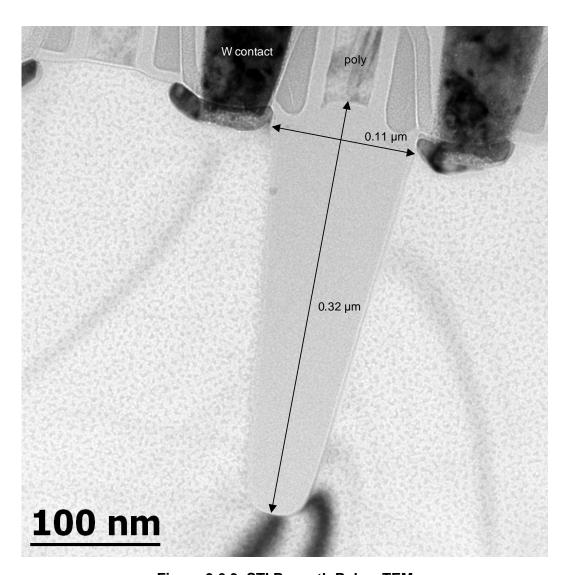


Figure 3.6.3 STI Beneath Poly - TEM



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