

## Mikrostruktur Permukaan Baja JIS S45C Hasil Difusi Pasca Pelapisan HVOF-Thermal Spray

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20279993&lokasi=lokal>

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### Abstrak

Telah dilakukan investigasi baja JIS S45C hasil difusi pasca pelapisan HVOF thermal spray coating. Studi mempelajari pengaruh pemanasan terhadap pada hasil pelapisan menggunakan teknik mikroskop optik, SEM, XRF dan XRD. Dari hasil observasi menunjukkan bahwa pasca pemanasan pada temperatur tinggi (1000-1200°C) dalam durasi waktu yang relatif lama (2-26 jam) terbentuk lapisan antarmuka (interface) antar permukaan base metal dan material pelapis melalui mekanisme difusi seiring peningkatan temperatur dan waktu, diamati peningkatan lebar ketebalan lapisan serta perubahan kekerasan akibat pemanasan terutama pada daerah interface.

.....Investigations have been conducted JIS S45C steel post the results of diffusion coatings HVOF thermal spray coating. Studies to study the effect of heating on the coating using the techniques of optical microscope, SEM, XRF and XRD. From the observation results indicate that post-heating at high temperature (1000-1200°C) in a relatively long duration (2-26 hours) are formed layer interface between the surface of the base metal and coating materials through the mechanism of the increasing diffusion temperature and time, observed increased width of layer thickness and changes in hardness due to heating, especially in interfaces areas.