

## TiOblast™

The Astra Tech TiOblast™ surface is grit blasted with titanium dioxide particles to achieve an isotropic, moderately roughened surface. TiOblast was launched in 1990 and is the precursor of the OsseoSpeed™ surface.

The TiOblast surface shows excellent outcomes when compared with machined titanium surfaces in theoretical models <sup>1-3</sup>, in terms of *in vitro* cell biocompatibility evaluations <sup>4,5</sup>, and in *in vivo* histomorphometrical comparisons (i.e. removal torque strength <sup>6-8</sup>, resonance frequency analysis <sup>9</sup>). Good results were also achieved in a human histological study where patients received microimplants with a TiOblast surface or a machined titanium surface. After a healing period of up to 6 months, significantly more bone-to-implant contact was found for the TiOblast surface <sup>10</sup>. The extensive pre-clinical documentation on TiOblast amount to 49 published articles <sup>1-49</sup>.

Clinical studies evaluating the safety and efficacy of the TiOblast surface show good and predictable results for overdenture treatments <sup>50-55</sup>, fixed full arches <sup>56-66</sup>, fixed partial dentures <sup>67-82</sup>, and single tooth rehabilitations <sup>69, 78, 83-104</sup>. Similar good and predictable results are reported for varying surgical techniques (one-stage <sup>68, 88, 105-108</sup>, extraction sockets <sup>87, 92, 99, 109-111</sup>, bone augmentation techniques <sup>63, 64, 69, 77, 89, 111-124</sup>), different loading protocols (immediate /early loading <sup>53, 56-58, 78, 85-87, 109, 110, 122, 125-129</sup>) and in periodontally compromised cases <sup>72, 81, 84, 90, 91, 114, 130</sup>.

Only minor marginal bone level alterations (on average 0.3 mm during a 5 year follow-up) are registered for the Astra Tech TiOblast implants <sup>51, 55, 66, 70, 72, 81, 82, 92, 101, 104, 105</sup>. The maintained marginal bone is a prerequisite for the maintenance of a long-term good esthetic result. In fact, TiOblast was the first moderately roughened implant surface with long-term, i.e. 10 years follow-up reported in the literature <sup>62, 114, 131</sup>.

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Reprints can be ordered from references marked with Ref. No.

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