



Use of Weigh-Scale Blenders with PEXIDAN® XLPE Systems

The proper ratio of PEXIDAN® grafted base with catalyst masterbatches is critical to the performance of PEXIDAN® systems. Weigh-scale or gravimetric blenders are preferred over volumetric blender since volumetric blenders depend upon very consistent flow behavior over time, something that is hard to achieve. Weight-based blenders do not depend upon material size, shape or flow behavior.

Weigh-Scale Blenders (WSB's) are common in our industry and work very well. Following the manufacturers' recommendations for operation is imperative. These recommendations can differ for different blends of materials. WSBs are normally designed to mix natural compound, regrind and additives, and while the default set-up will provide reasonable accuracy for PEXIDAN® products, it may be preferred (and manufacturer-recommended) to operate the unit with two "naturals" instead of one "natural" and one "regrind". This will ensure the most accurate mix of grafted base and catalyst masterbatch. This will also ensure that the unit always maintains the proper mix ratio by initiating an alarm and shut-down should the proper mix not be achieved because of lack of product or malfunction.

In addition, owing to the sequence that WSBs dispense (NATURAL followed by REGRIND), it is often recommended that the material of highest volume be placed in the REGRIND bin and dispensed last. Where PEXIDAN® is being dispensed, the highest volume is the grafted base, so the graft base would go into the REGRIND bin and the catalyst masterbatch would go into the NATURAL bin. Again, the manufacturer's recommendations should always be sought, but the following procedure is suggested:

- 1) Place the grafted base into the REGRIND bin.
- 2) Place the CAT product into the NATURAL bin.
- 3) Place the color concentrate (if used) in to the ADDITIVE bin.
- 4) Program the WSB to operate with two "naturals" (function *69 on some models), which will set the REGRIND thumbwheel to act as the 2nd "natural" (refer to manual to set functions).
- 5) Set the ADDITIVE thumbwheel to the percentage of color to be used.
- 6) Determine the thumbwheel setting for the grafted base (A-1001 or A-3001) as follows:

$$\% \text{ Graft} = 100 - [\% \text{ CAT} (100 + \% \text{ Additive})] / 100$$

which accounts for the addition of color without reducing the overall CAT level in the mix.

Example: PEXIDAN® V/T-2 with 4% color requires thumbwheels set as follows:

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| NATURAL | % CAT = 50 % (of total) |
| ADDITIVE | % COLOR = 4 % (of combined 'naturals') |
| REGRIND | % Graft = $100 - [50 (100 + 4)] / 100 = 100 - 52 = \underline{\underline{48 \%}}$ |

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