

```

PassReducible@k_MDT := PassReducible@k =
Block[ {1, n = Length@k, p = List@@Build@k
// (#^T ∪ (Abs@Reverse@#
Sign /@ List@@Build[MDT@@ (-List@@
k) ])^T ]^T[[2]] &, v = True},
Do[ If[ (Sign@p[[Mod[i + j (Range@o - 1),
2 n, 1]]] ∪ {} )^2 == {1},
(*There is a (o, o-1)-pass.*)
If[o == 3, Goto@1];
Do[ If[ Total@Mod[e, 2] == 2,
If[ (Mod[e, 2 n, e[[1]]
// Partition[#, 2] &
// Range@@@# &) [[;;, 2;; -2]]
// Mod[#, 2 n, 1] &
// Union@@# &
// # == Abs@p[[#]] ∪ {} &, Goto@1]]],
{e, Select[Table[SortBy[{c, i} ∪ Abs@
p[[Mod[{i, i + j}, 2 n, 1]]],
Mod[#, 2 n, i] &], {c, 2 n}],
Length@# == 4 &]^T[[
If[j == 1, {2, 3, 4, 1}, ;;]]^T]]],
{o, {3, 2}}, {i, 2 n}, {j, {1, -1}}];
v = False;
Label@1;
v];

```